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AUTHOR Kemelfield, Graeme
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ABSTRACT

In an attempt to determine a relatively standardized formula for evaluating children's television programs, a concept of flexible and varied means of exploring the characteristics of children's responses to particular programs and styles of programs according to the kinds of questions that each program raises was developed. The ways in which the concept of evaluation was defined are outlined, and the research methods which were evolved for undertaking specific pieces of evaluation are described. An account of three pilot studies which were carried on existing programs is given, along with an estimate of the feasibility and utility of such an evaluation as a means of providing feedback on broadcast output. (JY)

THE EVALUATION OF SCHOOLS' BROADCASTS:

PILOTING A NEW APPROACH

Graeme Kemelfield, B.A.

Independent Television Authority Fellow

Centre for Television Research
University of Leeds
Research Director
Jay G. Blumler

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G.K.

SECTION I

DEVELOPING A NEW APPROACH TO EVALUATION

Chapter 1

INTRODUCTION:

THE GENESIS OF THE STUDY

It seems increasingly the case that organisations and individuals concerned with the production of educational television programmes tend to feel themselves under some obligation to evaluate their output and correspondingly to pay at least some degree of lip service to a not always well-defined activity called 'research'.

This situation may be due in part to the emphasis presently being put on a 'systems' approach to the business of teaching and learning, as well as to the influence of the methodology of programmed instruction. It is undoubtedly also a result of the relative novelty and expense of introducing television into educational organizations on a large scale, where its effectiveness and the consequences of its use are open to questioning and doubt. In these circumstances, evaluation is likely to be considered not merely a praiseworthy activity but even obligatory in principle.*

The introduction of evaluative and testing procedures may be further encouraged by the seeming fact that the mediation of an electronic device such as TV 'distances' the makers and presenters of a teaching programme from their audience, thus permitting an examination of its effects without undue embarrassment (although producers and presenters are probably no less sensitive than classroom teachers to having their noses tweaked).

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* Thus James Wykes can write that 'no teacher can afford not to know as much as possible about the effect of every educational programme he is concerned with', and suggests that where the deployment of public funds is involved, as in many closed-circuit systems, evaluation 'of both quantitative and qualitative data becomes a positive duty'. Cf. 'Problems of Evaluation in Educational Television', Bulletin of the Institute of Education, University of London, New Series, No. 22, Autumn term, 1970.

The kind of evaluation of schools' broadcasts which is described below in this report, however, is not so much an activity which relates to the criticism of television as a performance as one that involves the producers of programmes, in collaboration with researchers, in an exploration of how children react to their presentations, and how alternative forms of presentation may influence those responses. As such, evaluative activity may be regarded as a creative process, just as is the making of programmes, and one which may even come to be seen as integral to the conception and development of succeeding programmes and broadcast series.

Originally it had been intended that this one-year investigation for the Independent Television Authority should be devoted to the task of evolving a relatively standardised formula for evaluating a selection of the schools' broadcast output of the Independent programme companies. It was hoped that this might lead to the development of several set methods of sampling and testing pupils' responses to broadcasts, and would issue in the construction of standard forms of questionnaires which could be systematically administered by company Education Officers. Such an approach, however, has appeared increasingly contrary to the philosophy of research which has emerged during the course of the year's investigation, one consistent theme of which has been to adapt flexible and varied means of exploring the characteristics of childrens' responses to particular programmes and styles of programme-making according to the kinds of questions and problems that each programme or broadcast series raises.

The following chapters of this Section outline how the concept of evaluation was defined and the research methods which were evolved for undertaking specific pieces of evaluation. Section II provides an account of three pilot studies which were carried out on current

material broadcast by several of the major Independent programme companies. Finally, an estimation is attempted in Section III of how feasible in practice, and how useful, such activity might prove for the companies concerned, if it was to be more widely adopted by them as a means of providing feedback on their broadcast output.

Chapter 2

A FIRST LOOK AT EVALUATION

What is Evaluation?

One way of approaching the evaluation of an educational television broadcast is to treat it as a 'product', likening the process of assessment to a Which examination of a car or washing machine. In this approach, the various qualities or characteristics of the product can be tested against previously established standards of efficiency in performance. Such measurement is frequently comparative, the performance of the product being compared with that of another in terms of different aspects of its functioning, after which a 'best buy' is indicated.

One crucial difference between hardware, such as cars and washing machines (and TV receivers), and the software of a television presentation, lies in the degree to which the evaluator is dependent in the latter case on the reactions of the consumer (i.e. the members of an audience) in making his judgements. In the case of a car or a television set, it is possible for the tester to judge, accurately and objectively enough, the dependability of the product in action, and the main characteristics of its performance, without requiring the similar estimates of a representative sample of users. This will hold good except for certain features, such as those of styling and appearance, where an 'objective' estimate will require the gathering of opinions from a wider sample of consumers. But in the case of a television broadcast, any evaluation must depend almost entirely on knowledge of the reactions to it which are representative of its users; and the judgement of any individual critic will necessarily

remain speculative unless he is in a position to make generalisations based on a thoroughly tested knowledge of audience reactions.

What is the Standard against which the Effects of a Programme can be Measured?

In discussing the way in which consumer products are commonly evaluated, it was said that particular features of the product are tested against a previously established standard of efficiency in performance, and that such measurement is frequently comparative. But if one can generally only talk of evaluating a broadcast in terms of the way an audience reacts to its qualities and characteristics, then it is the performance of an audience on some form of test which must determine any judgement of the programme's effectiveness.* How, then, does one establish the required standard or level of performance of an audience, which will indicate that a programme is functioning efficiently, or that one style or feature of presentation is more effective than another? There are several ways commonly adopted by researchers.

1. Comparison with a norm

For this approach, it is necessary to establish, or to have available, a norm, which indicates the average level of learning or achievement in, for example, aspects of a particular school subject for a given age group.

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* It is worth noting at this stage that the notion of measuring effectiveness by means of audience achievement on a test with set standards, which is commonly associated with the evaluation of educational programmes, is one which may suggest a rather too limited way of investigating what is learnt from a programme, i.e. the knowledge which is acquired from it, and the way it is understood by an audience. An alternative approach is outlined in the following chapter.

A good illustration is provided by a piece of research being undertaken by the ILEA Television Service into the three-year TV French series which it is transmitting, the aim of which, according to James Wykes, its Director, is to 'assess the level of attainment achieved by children who have followed the television course for two years, compared with a control group of matched age and ability who have learnt French by other methods'. In this case, a norm of achievement by children has already been established by the National Foundation for Educational Research in a study of French teaching in primary schools. Consequently, it is possible for the ILEA Television Service to administer the same tests of listening comprehension and oral performance at an equivalent stage of the TV pupils' French course.

There are a number of reasons, however, why comparison with a norm is not likely to be a useful approach so far as schools' TV broadcasting is concerned.

First, it is most unlikely that norms will be found to be readily available for comparing the learning of children from TV in a specific subject matter area with that of others whose learning is mediated solely by a classroom teacher or through other resources. In any case, considerable doubt has been cast on the validity of such comparisons, unless very strict controls are applied to ensure that the comparison is an exact or fair one. The aims of schools' broadcasts, and the ground covered by them, are likely to differ considerably from set syllabi in schools and, where they correspond to a syllabus, to be supplementary, rather than aiming to provide a comprehensive course in themselves (as with the ILEA French series).

Second, since teacher follow-up is often considered integral to schools' broadcasting, the participation of individual classroom teachers will inevitably influence the direction and extent of childrens' overall learning from a given series. Thus, if one wanted to compare the learning from a schools' TV series with a norm, it would be necessary to test children in a large number of schools to assess the average extent of learning from it. This would not only present prohibitive difficulties in terms of time and expense but would tend to mask revealing differences between one classroom and another, unless an exhaustive analysis of the findings was made.

Finally, such broad comparisons, while providing an idea of the overall effectiveness of a programme series, cannot readily indicate why particular broadcasts have been successful (or the reverse) in creating interest or promoting learning, or what features tended to render them more or less effective. That is, they do not really tell the researcher much about the specific qualities or characteristics which a programme possesses.

2. The attainment of objectives

Another approach, associated particularly with programmed instruction, is that of stating the learning objectives of a presentation in a precise manner, e.g. the facts, principles or skills which the programme is intended to convey, and the mastery of which the learner should demonstrate. In this case an arbitrarily chosen level, indicating an acceptable degree of success in achieving objectives, is used as a standard against which the performance of an individual or group can be assessed.

Schools' TV broadcasts, however, frequently have aims or objectives, the attainment of which is not measurable in a straightforward way by means of conventional tests. They may, for instance, be intended to stimulate longer-term interest and thought about the concepts of a subject like mathematics, or imaginative activities such as painting or the writing of poetry. Such qualitative outcomes are difficult to assess, and the difficulty is considerably increased by the complex influence of the teacher in classroom 'follow-up' and unsupervised peer group discussion. Furthermore, broadcasters often regard programmes as providing materials for teachers to utilise in diverse ways, according to their own needs and the needs of their classes, and in such cases their objectives can only be stated in a rather general manner. Finally, to state objectives and test their attainment may frequently lead to the overlooking of what a schools' programme has meant to the children themselves. That is, the child will produce a personalized response to the material which will be dependent upon his previous experience and the set of needs, attitudes and expectancies which he brings to the viewing situation. Consequently, he may be affected by the programme and put it to use in ways quite other than those that were preconceived by the educationalist or broadcaster.

If this last argument is accepted as a decisive one, then another approach to the question of evaluation is clearly necessary. The following chapter describes the development of such an alternative approach, one which does not depend on the establishment of prior norms or standards of achievement, and which appears to be potentially suitable for application to schools' broadcasting.

Chapter 3

AN ALTERNATIVE APPROACH TO EVALUATION

In seeking an approach tailored to the needs of schools' broadcasters, it seemed best to look again at the concept of evaluation in the simplest manner. What does it mean to evaluate a broadcast? Surely it is tantamount to asking: 'What is the value of my programme?'.

Such a value cannot exist in any absolute sense, however, unless one is thinking in terms of cost-effectiveness. (Even then it is an elusive notion.) Rather, one is questioning the value or usefulness of programmes for someone, and so one is led to ask further, 'Valuable or useful for whom?'.

There are, in effect, two users of schools' broadcasts - teachers and children. For teachers, they may be sources for the presentation of information, ideas and new methods as well as a stimulus for further activities in their classrooms. They are a teaching tool and as such will quite simply have value according to how useful any individual teacher finds them for his or her classroom teaching.

The other users are the children themselves. As has been previously insisted, schools' broadcasts are not planned to exist in isolation, but are conceived as part of a teaching and learning unit which includes preparatory, and especially follow-up, activities led by a teacher. It is nevertheless justifiable to consider broadcasts as having in themselves a 'usefulness' for children, which will include their experience of a programme and the personal meaning it has for them as well as any factual knowledge they may acquire. The three pilot studies described below provide evidence to support the validity of this view and the utility of methods that are consistent with it.

To estimate the value of any programme or series, therefore, one should ideally combine a measure of their usefulness both for teachers and for children. The gathering of teachers' comments by means of a card reporting system is already undertaken by the companies. While open to criticism and improvement, the system in practise may provide, when combined with visits to schools by company Education Officers, an adequate gauge of teachers' reactions to broadcasts.

The card reports are also intended to elicit teachers' observations of childrens' reactions. Such comment may be informative and of considerable interest to producers and Education Officers. But the tendency towards unanimity of reported opinion, from what seems the great majority of classrooms, suggests that pupils' responses may be influenced or interpreted by teachers in ways that preclude these reports from being considered as in any sense objective assessments. The possibility of gathering childrens' responses by means of more rigorous research procedures, however, offers a potential source of reliable feedback, which is virtually untapped by schools' broadcasters. While presenting a task of some complexity if attempted in any depth, may nonetheless prove remarkably rewarding and revealing for them in outcome.

By questioning children directly, it is possible for the producer to ask, 'Have I communicated what I wanted to communicate?'. That is, 'Have pupils understood or interpreted the content of the programme in the way I intended? Were my essential points the main ones for them, or were they more concerned with what were for me peripheral aspects?'. By the same token it enables him to ask, 'What have the children selected as important or interesting for them about a programme?'. How do they relate sequences in it to their own lives and experience? What parts have influenced their opinions or engaged their feelings?

The answers to such questions should concern the producer in two most important waye. First, they can indicate the more general effects of his communication, i.e. the way in which children have absorbed the programme content into their own personal experience and understanding of a topic and how their perception of it has been modified by viewing the programme. Second, they can provide him with information about what sorts of variables are crucial in influencing how children tend to respond to a programme, and so help to reveal to him the qualities and effects of different styles and features of presentation, or of changes in the viewing environment.

An approach of this nature, which can be labelled pupil-centred or child-centred, and which is characterized by its admission of a freedom of response rather than limiting itself to responses dictated by defined objectives, thus has functions which are beyond the scope of more traditional educational testing. Essentially the question of evaluation is restated as a question of experience and understanding. How does the child experience the programme? What does he come to understand about the relationship between himself and the programme? And it is this restatement in terms of experience and understanding which endows the child-centred approach with its multi-functional character.

Thus, it can act as a means of <u>diagnosis</u> for the producer, indicating which sequences hold childrens' interest and attention, or arouse strong feelings and opinions, and whether pupils are clear or confused in their grasp of particular parts of a programme. By revealing the way in which children react to and interpret programme content, it can also indicate how successful the producer has been in communicating in the way he intended.

Furthermore, it can guide the producers' judgement, for example, about the most satisfactory choices to make between alternative forms of presentation, or the effect of a particular type of presentation on different groups of pupils.

Finally, it can be a source of insight for teachers, by helping to reveal how groups of children perceive programme sequences at the time of viewing, and that state of mind in which a broadcast tends to leave them in the immediate post-viewing period. The studies carried out during the course of this year have all attempted to chart where children 'are', what their understanding of a programme is, at the point when the transmission ends and the teacher must pick up the threads for discussion and activity in the classroom.

The following chapter discusses the relationship between such evaluative experiments and research that is commonly regarded as more 'basic' in character.

Chapter 4

THE CHOICE OF RESEARCH METHODS: EVALUATIVE VS. BASIC RESEARCH

In the two previous chapters various alternative approaches to what may be called evaluative research have been broadly outlined. On the one hand, pupils' performances on a test of learning may be compared with a norm, or against a previously determined level of attainment, which indicates their success in achieving the learning goals or objectives of a programme. On the other hand, the researcher may attempt to determine the value of a presentation for its audience by probing by different means the ways in which members of that audience respond and react to it.

The term, 'evaluative research', has been deliberately chosen. For a distinction has sometimes been made between the activity of evaluation and that which may be known as basic or fundamental research. Confusion is likely to result unless it is made clear whether the frequently cited distinction between these activities is supposed to refer to their aims or to their methods.

The aim of evaluation may be seen as providing feedback, from which practical judgements and decisions about future production and transmission can be made. Evaluative research is generally regarded as programme-specific, that is, as providing feedback relevant only to the particular broadcast or series of broadcasts under scrutiny, and precluding wider generalization to other output.

Basic research, on the other hand, seeks, it is often implied, generalisable results or conclusions, which may not have any immediate application to programme presentation. It will be argued below, however, that such a distinction becomes an artificial one if the approach

to evaluation defined in Chapter 3 is adopted. By looking at one of the classic methods used by psychologists in undertaking research, that of conducting a basic experimental investigation, it should be possible to clarify this point of view.

The steps taken in preparing an experiment are likely to include the following:

First, the deliberate variation of some aspect of presentation (e.g. style of commentary, use of still or moving pictures) or of audience characteristics (e.g. comparison of the responses of two age groups, or of children from schools with a different socio-economic intake), or of environmental factors.

Second, the development of a hypothesis, which is a precise statement of the expected behaviour or performance of a given audience after being exposed to a particular presentation under certain conditions rather than others.

Third, a statistical measure of the differences which emerge from these comparisons, indicating the extent to which any differences are significant, that is, likely to recur if the same experiment was repeated, and not due simply to chance fluctuation.

Thus, we might hypothesize that a slow and repetitious style of commentary will lead to better comprehension and retention of the content of a programme than a faster-paced one, or, alternatively, that it will lead to boredom and therefore poorer attention and learning among children. We would then need to compare two programmes with differing commentary styles and to determine whether any significant differences were exhibited in the responses of two comparable viewing audiences.

Whereas evaluative research is considered to be programme-specific, basic research is supposed to seek generalisable results. So, in the above case, the researcher would not be interested so much in evaluating the two contrasted programmes in themselves, but rather, in using them as a means of determining in general whether such and such a commentary style is likely to be an effective presentation feature for all audiences with similar characteristics.

But if generalisable results are the aim, the researcher must be confident that his coverage of the appropriate audience has been truly comprehensive. In the case of schools' broadcasts, he will need to query whether children of different ages, abilities and interests, with differing personal styles of learning and perceiving, and from varying family and social backgrounds, will in fact respond in like ways to the same features of presentation. And he will want to know whether responses to a particular aspect of production will hold good for different kinds of subject matter and whether it will elicit one kind of response (e.g. clear comprehension) but not another (e.g. stimulus for further activity). It is only by testing a hypothesis under a host of systematically controlled conditions that one can eventually speak of having truly generalisable findings.

If the aim of basic research, then, is to seek generalisable findings about audience responses to programme presentations it will only be by studying reactions to a range of <u>particular</u> broadcasts that widely applicable findings will be able to emerge.

But similarly, in the case of evaluative research, while the initial aim may be to seek feedback specific to a particular programme or series, the accumulated findings of studies probing responses to individual broadcasts may begin to build towards a consistent pattern

of results, indicating their possible generalisability. That is, it should enable a producer to gain a more general appreciation of which variables are consistently proving influential in determining how children respond to his presentations. (Even so, the final outcome may well be a clearer awareness of the complexities implicit in differing circumstances rather than a simple result that fits all situations.)

It is here that the distinction between methods which compare pupils' achievements with a fixed norm or standard, and those which are intended to be more exploratory of children's responses, becomes crucial. Traditionally, evaluative research has been regarded as an activity essentially wedded to limited and specified techniques of data collection and analysis. But if children's responses are to be sensitively explored, then the researcher will need to call upon any of the methods of precise observation and experimentation employed by social scientists, as appropriate. It is only the latter approach which will enable particular qualities and characteristics of broadcasts to be revealed according to the nature of those responses. Evaluative research, then, ought not to be confined to any single method of data collection and analysis. Like basic research, it must be free to use whatever techniques of investigation which seem to promise to clarify the specific problems that have been posed for examination.

All of this suggests that, far from being opposed, evaluative and basic research ought to feed into one another to similar ends. For both must begin with an examination of specific programmes, and both will build towards an understanding of factors in television presentation and reaction which are of consistent and general importance.

As to the choice of research methods, one or another will tend to be more suitable according to how well-developed the researcher's understanding of a problem is. Where he has a strong hunch, or has accumulated sufficient evidence to hypothesize that such and such a variable in presentation is likely to influence children's responses in a particular way, then the experimental method may well be appropriate. Where he wishes to make a more exploratory probing of responses to a presentation, other more open-ended approaches may be more revealing. Indeed, any single investigation may deploy a combination of methods, as in the case of the Thames Television Patterns of Expression study (Chapter 6), where both experimental comparison and more qualitative analyses were adopted. With a skilful integration of techniques, the researcher can combine the strengths of different approaches and avoid some of their inherent limitations.

SECTION II

THE APPROACH IN PRACTICE

Chapter 5

THE PREPARATION OF A RESEARCH STUDY

An assumption underlying the approach to research described in this report, insofar as it is intended to apply specifically to the evaluation of schools' broadcasts, is that it should involve the producers of programmes and the researcher in a close collaboration. It is, after all, schools' broadcasters themselves (and, through them, the teachers and pupils) whom the research is intended to benefit, and it is they who can best initially indicate the practical problems and questions which are pressing with respect to particular productions.

An important aspect of the year's work, therefore, has been to examine the most satisfactory means of combining the experience and insights of producers and researchers, and how the activities associated with research can be collaboratively undertaken by them. The main steps which were found to be necessary in shaping and executing a piece of research, and the way in which research activities were distributed in the three studies undertaken with the Independent programme companies, can be outlined as follows:

1. Selection of a topic for research

All three projects began with an informal meeting between the researcher and the members of the Schools' Broadcasting Department of the company concerned. Discussions characteristically ranged over problems and questions in the minds of producers of particular series, and those which seemed of more general interest, and amenable to tackling by research methods, were selected for further consideration.

2. The shaping of a research study

The next step involved the researcher in giving shape to one or more possible studies. This meant that he had the task of determining precisely what it was that the research was intended to discover, developing testable hypotheses, deciding which aspects of presentation might be examined, the composition of different groups of children whose responses were to be gathered and compared, and what sorts of measures it would be desirable to employ.

3. Final decision-making

After planning the design of possible studies, the researcher's proposals were then re-submitted to those members of the Department wishing to be further involved in the execution of the research. A choice was made between alternative aims and designs, possible modifications were suggested, and a final shape was then agreed for the study.

4. Preparation of questionnaires and measures

It was then up to the researcher to prepare a questionnaire by means of which childrens' responses could be gathered and analysed. This involved decisions about both question format and item substance. Whenever possible, this task was undertaken in consultation with a producer or Education Officer directly concerned with the programme to be examined, but final responsibility was assumed by the researcher.

5. Practical planning

The planning of the actual running of the researcher was now taken over by a company Education Officer in close consultation with the researcher. The number of children to be involved in the study, and the schools from which they were to be drawn, was decided. They

had then to be randomised into different groups, the method used being that of giving the children numbers and then shuffling and dividing a pack of numbered cards. Precise plans were made with the schools involved for the study to be run at a given time, or for children to be brought into the company's television studios.

At this stage any dubbing or re-editing of the programme was also undertaken, and in one case the questionnaire was pre-piloted in a local school and modified in the light of children's responses.

6. Classroom running

The actual running of a study, that is, the administration of questionnaires in a school classroom or company viewing room, was primarily the responsibility of company Education Officers. This included the task of ensuring that equipment (e.g. videotape recorder and monitor) was set up in advance, that children were sorted into groups and sent to the correct room, and that the post-viewing procedure was properly explained to them and supervised. As this stage is the most liable to mishap and requires careful administration, it proved beneficial for the researcher to be initially involved, where his experience could help to iron out pitfalls.

7. Collating and analysing the data

The next stage of collating and analysing the responses gathered from pupils had necessarily to fall for the most part on the shoulders of the researcher, as it required his particular skills. Use was made of University computer facilities, and some of the work was delegated to post-graduate students. Where appropriate, results were tested for their statistical significance.

8. Interpreting the evidence

Having analysed the data, the last important task was to consider the implications of the findings. Being closest to the evidence, the researcher was best qualified to formulate a provisional interpretation, but further discussion of this between himself and the company members involved was an essential part of the process of finding the most satisfactory explanation of the study's results.

Some of the practical needs which required attention are further discussed in Chapter 9. The following chapters of this section provide a detailed account of how three research studies were planned and executed in collaboration with Thames Television, Yorkshire Television, and Granada Television, respectively, and of the findings which emerged from them.

Chapter 6

STUDY I:

THAMES TELEVISION'S PATTERNS OF EXPRESSION

The project's first substantial investigation was undertaken in collaboration with Thames Television. It was a study of the responses of children to a programme in a new series, Patterns of Expression, which was intended for pupils aged 9-12. The series dealt with selected aspects of animal and human behaviour, in particular comparing some of the ways in which animals and human beings communicate and express themselves. Since its principal aims were to stimulate observation and encourage creative thinking, discussion and writing, a constant feature of the programmes was the showing of familiar patterns of behaviour in new contexts. The specific focus of the research was the first broadcast in the series, which was devoted to the theme of Display. This examined the functions of display behaviour in animals and emphasized those human patterns of expression, especially in dress and fashion, which tend to serve similar ends.

The Preparation of the Study

Deciding the aims of the study

An initial step was a meeting between the researcher and producers and Education Officers of Thames Television, which was arranged by the Head of the company's Schools' Broadcasting Department. To this gathering the researcher first outlined some of his ideas about the evaluation of schools' broadcasts, the kinds of research techniques that were available, and the benefits which the company could derive from their use. Then some possible applications

to the Department's output were discussed, after which it was decided that children's responses to the opening broadcast in the Patterns of Expression series could provide a fruitful field for investigation. This decision reflected an interest in the reactions of pupils to the important part played by visual materials in promoting the teaching objectives of the programme, in which novel combinations of pictures were used to present certain concepts that might have initially seemed unfamiliar to the viewers.

At a further meeting some more specific areas of concern to company members were canvassed as possible themes for a study. They included:

1. Which parts of the programme did the pupils like best?

2. How well did they understand the programme content?

3. Were there any differences of response between children from schools drawing their pupils from contrasting social backgrounds?

4. Would it enhance or detract from children's appreciation of the programme if a link-man were used on vision, instead of the voice-over technique which the series had actually employed?

5. To what kinds of follow-up teaching did various sequences of the programme lend themselves?

It was decided to pursue the first four of these concerns within the framework of a single research design, concentrating especially on pupil comprehension of programme content. The issue of teacher follow-up was dropped at this stage because it would have posed a quite different kind of research problem. The main aims of the study were defined, then, in terms of an examination of children's understanding of the programme content and of differences of comprehension occurring

among pupils from schools with contrasting socio-economic intakes. Subsidiary aims were to investigate the parts of the programme that proved most interesting to the pupils and whether they would have preferred to be able to see the link-man whose voice had delivered the commentary.

Operationalising the aims of the study

The measurement of children's interest in various parts of the broadcast was a matter of fairly straightforward questioning, but assessing their understanding of the programme content posed a more complex problem. There seemed to be two main ways in which this could be approached. One could examine how far the pupils had 'grasped' the various aspects of the concept of display as they had been presented in the programme. That is, did they understand sequences of the programme in the way that the producer had intended? Did their way of 'seeing' things and relating them to each other conform to his? Alternatively, one could try to look at understanding from the child's own point of view and ask: How did he personally interpret the programme's ideas? How did he weave together the materials presented in it? What sorts of personal meanings did he assign to those materials?

On reflection it was considered that any thorough investigation of children's understanding of programme content should include both aspects. We were then faced with the task of devising ways of questioning children so as to elicit responses which would reveal the nature of their understanding. The programme producer had organised and presented his ideas and materials in a particular way. To what extent did pupils' responses after viewing the programme reflect a similar manner of organisation? To what extent did they diverge? What were the dominant ways in which pupils tended to interpret and

organise the concepts which the programme had presented?

It was immediately evident that any attempt to answer these questions would have to be based on a prior and careful examination of the content of the television presentation. An analysis suggested that the programme centred on 12 film sequences, each of which juxtaposed examples of animal and human display. These sequences in turn illustrated six different purposes of display: to express authority, status or aggression, to attract, to show conformity and to camouflage (a form of anti-display).

The function of the commentary appeared to be one of establishing these six categories by explicitly indicating the relationships between one or another of the filmed examples of display presented in the programme. Thus, its role was to link and impose a structure on what might otherwise have been seen as a series of independent film clips (which could have been interrelated arbitrarily by the children according to their own individual preconceptions and associations). From the producer's angle, understanding of the programme could be said to turn on the viewer's ability to associate particular visual examples of human or animal display in terms of the six categories of the purposes of display which the programme commentary had explained.

A possible method of investigating children's understanding of the programme content was now apparent. By comparing how a) children who had viewed the programme, and b) similar pupils not exposed to it, organised and interpreted various visual examples

of display, it would be possible to ascertain how far the programme had succeeded in impressing its categories on the pupils and to what extent they still tended to rely on their own preconceptions in responding to the programme's materials.

Determining the research techniques and materials to be used

The most suitable method of representing the programme's six categories of display appeared to be that of reproducing six pairs of photographs, each pair deriving from the film sequences that had been used to exemplify a particular category. This yielded the following set of categories and photograph-pairs:

Category	Photographs
Authority	Policeman/Judge
Status	Ascot dress/Queen at Coronation
Aggression	Attacking swan/Hell's Angel
Attraction	Lyre bird dancing/Carnaby Street model
Conformity	Hippies dressed alike/Penguins
Camouflage	Giraffe/Soldier in jungle uniform

It then became possible to present a set of these 12 photographs to children, asking them to group them in the way in which they thought the pictures went most appropriately together. Such a simple sorting task permits a statistical treatment of the results. In general terms the hypothesis under investigation is that the pupils who viewed the programme would afterwards show a greater tendency to group photographs according to the producer's pairings than would those in the control group who had not similarly seen the programme. Of course the viewers were unlikely to reproduce

the producer's pairings perfectly. However, the programme could be said to have been effective if the photographs grouped by the viewers included significantly more producer-based pairs than did those provided by the control group children who had not seen the programme.

This procedure would show what photographs children associated with each other; in itself it would not establish why they had put them together and how far the concepts developed in the programme had actually governed their groupings. In order to explore the child's manner of experiencing and interpreting the programme content at this level, a more open-ended form of questioning was called for, and it was decided to ask each pupil to outline in note form his reasons for having grouped the photos as he had.

Two approaches are suited to the analysis of such 'open-ended' data, and both were envisaged. First, the children's reasons for combining photographs could be sorted into various categories according to certain criteria, and the resulting tables could be statistically analysed for differences between viewers and non-viewers. Second, in order to exploit the full range and complexity expected in such free writing a qualitative analysis of the material could be attempted.

Thus, the essentially simple photograph-grouping task could be analysed in three ways:

1. Statistical analysis aimed at assessing the influence of the programme upon the pupils' photograph combinations.

2. Content analysis of pupils' references to their reasons for having combined photographs as they had, aimed at assessing the

influence of the programme upon the classification schemes used by children in producing groups of photos.

3. A more wide-ranging analysis of the qualitative characteristics of pupils' free writing about the photograph groupings, aimed at assessing the influence of the programme on their understanding of the relationships that could obtain between different modes of display.

It still remained to determine how to study differences of pupil understanding in terms of the social background of the children enrolled in different schools. It was decided that the subjects of the experiment should be drawn from four schools, two representing an intake of relatively privileged socio-economic background and two from a relatively under-privileged background. Owing to shortage of time, and uncertainty about what were likely to prove to be key variables in guiding pupils' responses, it was decided to select the schools on a fairly rough-and-ready basis, drawing on the school-visiting experience of one of the company's Education Officers. The decision called for a programme-viewing (experimental) group and a non-programme-viewing (control) group in each school. Consequently, each school was asked to select two classes, comprising a minimum of 40 and a maximum of 70 children, who would then be randomly divided into control and experimental groups by the Education Officer, by shuffling and dividing a pack of numbered cards.

Finally, a short questionnaire was devised. For the experimental group members only this included two questions, asking 'Which part of the programme did you find most interesting? and 'Would it be better if you could sometimes see on the screen the man whose voice you can hear on the programme?'. For all the pupils, space

was also provided in which they were asked to write down the photograph groupings that struck them as most appropriate and the reasons for their groupings. As each of the 12 photos was lettered from A to J, the pupils had only to work with sets of letters.

Classroom procedure for the study

The following classroom procedure for carrying out the study was agreed by the researcher and the Thames Television Education Officer, who was to supervise the actual execution of the experiment in the schools:

1. For experimental groups: A Sony VTR to be installed in the classroom before the commencement of school, or during break-time or the lunch interval. The VTR to be hooked up to a company or school monitor (if available). The Education Officer (E.O.) to begin by saying to the class, 'I'm from Thames Television, and I've got a new programme here I want to show you.' The VTR to be then started and the programme played through.

After the programme, the E.O. to give out questionnaires and sets of photos in packets, marked, 'Do not open until instructed.' He was then to read out the two questions on the questionnaire, and after completion by the pupils, to say:

> In your packet there are twelve photos. In a minute I want you to lay these photos out on your desk, and to have a good look at them. Then I want you to put them into piles of photos which seem to you to go together. The smallest number of piles you can make is two, and the largest is six. It's up to you how many piles you choose to make. You have five minutes to do this sorting into piles. Use your own ideas - don't discuss your piles with the others. Right, open the packets and go ahead with the sorting into piles.

After the piles have been sorted, the E.O. to say: 'Now, I want you to take one of your piles and write down on your sheet of paper the letters on the photos in that pile.'

When the pupils have written down their letters, the E.O. was to say: 'Now, I want you to write down on your sheet why you have put these piles together. So write down this sentence which is on the board (Points to board) and then complete it.' E.O. then to read the beginning of sentence on the board: 'I have put these photos together because . . .'

When the pupils have written down their explanations of their piles, the E.O. to say: 'Now draw a line across the page. Do the same for each pile in turn until you have finished with your piles.' When the pupils have finished their piles, the E.O. to say: 'Please write on your sheets your name, your age and whether you are a boy or girl.' The photos and sheets then to be collected.

2. <u>For control groups</u>

The E.O. to slip away from the experimental group as soon as he is satisfied that the VTR is working correctly and to go to the control group. He is to say to pupils: 'I'm from Thames Television. I have some photos which we want to use in a programme. To help us do this in the best way, I want you to show me how you would put these photos together.'

He is then to hand out packets of photos and sheets of paper and to proceed as with the experimental groups.

A class teacher is to be in each of the classrooms to supervise pupils, so that the E.O. can move between the two classrooms to give instructions in turn. Neither the teacher nor the E.O. is to give any help to the children, apart from repeating the exact written instructions (as above). The only exception to be when a pupil finds himself stuck with photos he does not know how to classify. He may then be told quietly to make a separate pile of 'leftovers'.

The Execution of the Study

Summary of the aims and design of the study

A brief summary can now be given of the aims and design of the study:

Principal aims:

1. To examine childrens' understanding of the programme content.
2. To compare the understanding of children from schools with a more/less privileged intake.

Subsidiary aims:

1. To determine the parts of the programme which most interested children.
2. To determine childrens' preferences for a link-man or voice-over manner of presentation.

Subjects:

218 upper primary school pupils (10 - 11 years old), drawn from four schools in the Thames Television (London) region, as follows:

More privileged schools, N = 126
Less privileged schools, N = 92

The pupils to be randomly divided into experimental (programme-viewing) and control (non

programme-viewing) groups in each school.

Methods of data collection:

1. Childrens' understanding:

   a) Pupils required to sort twelve photographs, representing sequences in the programmes, into groups of photos 'which go together'.

   b) Pupils required to write a brief account of why photos have been grouped together.

2. Childrens' interest and link-man preferences:

   a) Brief written account required of part of programme found most interesting.

   b) Preference for link man to be indicated by a tick placed beside one of the following phrases: 'Better', 'not so good', or 'much the same' (as voice-over).

Methods of Analysis:

1. Pupils' understanding:

   a) Extent to which pupils reproduce producer pairings of photographs. A comparison between the experimental and control groups in all schools combined and in two types of schools distinguished according to the social background of their intakes.

   b) Frequency of use of producer-based categories to explain photograph groupings to be compared for experimental and control

groups in all schools combined and by social background of schools.

c) Qualitative analysis of children's descriptions of categories.

2. Children's interest and link-man preferences: Measurement of frequency of preferences, in experimental group only, for schools combined and between schools according to their social background.

Results of the study

1. Children's understanding

a) Comparison between children's photograph groupings and producer's pairings

A first analysis was specifically designed to assess the influence of the programme on the groups of combined photographs which the children formed after having seen it. Taking the programme content as a guide to this part of the analysis, there were six 'correct' pairings that the children could have reproduced, and the number of times that each of the 'correct' pairs was included among their combinations is shown in Table I. This ignores differences between the schools taking part in the study in order to concentrate attention on the programme's influence as such.

TABLE I

The Frequency with Which Pupils Grouped Photos in Conformity with the Producer's Pairings

Producer's Pairings	Pupils selecting producer's pairings	
	Control Groups (N = 109)	Experimental Groups (N = 109)
	%	%
Policeman/Judge	54	80
Ascot dress/Queen	33	37
Swan/Hell's Angel	0	15
Lyre Bird/Carnaby St. model	3	14
Hippies/Penguins	1	10
Giraffe/Soldier	64	63

It can be seen that the children in the experimental group did reproduce more producer pairings than did those in the control group. The differences are quite unevenly distributed, however, and they are not large enough to suggest that the programme had dramatically realigned the children's prior associations. Nevertheless, according to a chi-squared test, the differences between viewers and non-viewers shown in the table proved overall to be statistically significant at the 1% level (meaning that they would have occurred by chance only once in a hundred further replications of the study). It is safe to assume, therefore, that the modest tendency for the viewers to conform more often to the producer's pairings was due to the programme's influence and not a chance result.

Further information can be gleaned from a more detailed inspection of the table. It is clear, first of all, that the differences between the experimental group pupils and the controls were concentrated to a considerable extent on the policeman/judge pair and to a much lesser extent on the swan/Hell's Angel, [illegible] bird/Carnaby Street model and hippy/penguin pairs. Second, it is evident that viewers and non-viewers alike were far more inclined to group the policeman with the judge (the authority combination according to the programme) and the giraffe with the soldier (illustrating camouflage ir the programme) than they were to reproduce the other combinations that the programme had presented. In the case of the policeman/judge pair, the pupils' sensitivity to this connection was strongly reinforced by exposure to the programme. Most of the other associations, however, were initially quite novel to the children, and the results suggest that the programme succeeded in familiarising only a few of the experimental group viewers with them.

A similar impression of modest change within a relatively stable context of prior associations emerged from a different way of examining the photographs grouped by the children. This considered all the combinations they had formed, regardless of their conformity to producer pairings. The results are set out in Table II, which shows for each photograph which other photos it was most commonly joined with in the children's groupings.

TABLE II

Most Frequent Combinations of Photographs Formed by Pupils*

	Combinations			
	Control Group N = 109		Experimental Group N = 109	
		N		N
Policeman WITH	Judge	59	Judge	87
	Queen	35	Queen	80
Judge	Queen	80	Queen	88
	Policeman	59	Policeman	87
Queen	Judge	80	Judge	88
	Ascot Dress	36	Policeman	80
	Policeman	35	Ascot Dress	40
Ascot Dress	Carnaby St.	61	Carnaby St.	54
	Queen	36	Queen	40
Carnaby St.	Ascot Dress	61	Hippies	61
	Hippies	38	Hell's Angel	60
	Hell's Angel	32	Ascot Dress	54
Hippies	Hell's Angel	91	Hell's Angel	95
	Carnaby St.	38	Carnaby St.	61
Hell's Angels	Hippies	91	Hippies	95
	Carnaby St.	32	Carnaby St.	60
Swan	Penguins	103	Lyre Bird	86
	Lyre Bird	60	Penguins	82
Lyre Bird	Giraffe	71	Swan	86
	Swan	60	Penguins	67
	Penguins	59	Giraffe	49
Penguins	Swan	103	Swan	82
	Lyre Bird	59	Lyre Bird	67
	Giraffe	40	Giraffe	58
Giraffe	Lyre Bird	71	Soldier	69
	Soldier	70	Lyre Bird	49
Soldier	Giraffe	70	Giraffe	69

*Photo pairings below 30 in number are not included in the table

Perhaps the most immediately striking feature of the table is the similarity shown between the experimental and control group combinations. Some photograph pairs appear to have been virtually self-evident to the pupils, even though they did not correspond to a relationship indicated in the programme - e.g. Hell's Angel/hippies (not Hell's Angel/swan as in the broadcast), Queen/judge (not Queen/Ascot dress) and penguins/swan (not penguins/hippies). Nevertheless, certain pairings were more frequently found in the experimental group. In fact, the pupils in this group tended to provide fewer and larger groupings than did those in the control group, the effect appearing almost to be one of a formation of clusters. The most obvious examples are the strengthening of relationships between policeman, judge and Queen and between Carnaby Street model, Hell's Angel and hippies. An examination of the reasons which the pupils gave for their groupings may help to clarify what was happening.

b. Comparison of pupils' categories of display and the producer's categories

Table III presents the results of an analysis of the reasons given by the pupils to explain their photograph pairings. Ten broad categories were sufficient to incorporate most of their statements, but some of them were broken down further into sub-categories.

TABLE III

Categories of Display Formed by Pupils

Categories		Control Groups		Experimental Groups	
		N		N	
A. Animals/Birds	Animals/birds per se	89		54	
	Life in jungle/ Africa	43		9	
	Life in water	16	148	6	69
B.* Camouflage			1		47
C. Clothes	Clothes per se	19		17	
	For fashion	18		25	
	*To show status	8	45	31	73
D. Authority	*Display for authority	1		12	
	Law and order	47	48	34	46
E. Importance	Important people/ events/occasions		44		24
F. Hippies - Hell's Angel			37		18
G. Aggression	*Aggressive display, fighting		12		17
H. Attraction	*Display for attraction, courtship		2		37
I. Conformity	*Conformist display		5		15
J. Narrative	Situation described		69		38
K. Other	Unclassifiable/ nonsense, etc.		98		64

*Asterisk indicates producer's category

The material is rich and complex, and only the more outstanding findings can be mentioned here. First, the table draws attention to a probable reason for the failure of the children to duplicate more of the producer's pairings in their own groups of photographs. The factor common to the most neglected combinations - swan/Hell's Angel, Lyre bird/Carnaby Street model and hippies/penguins - was the coupling of a bird with a human figure. But Row A of Table III

highlights the importance for children of explanations of grouped photos in terms of bird/animal affinities instead of categories that relate the behaviour of birds or animals to that of human beings. It is also noticeable, however, that the experimental group pupils produced fewer bird/animal explanations than did the members of the control group.* In effect, the programme had liberated some of its viewers from conceptual constraints set by their previous patterns of association.

A second important tendency is illustrated by Row J in the table. This shows that one of the most common responses in the control group (exceeded only by references to bird/animal categories) was a tendency to explain a combination by providing some kind of narrative account of what the photos showed. Some of these evinced a fascinating element of private fantasy (e.g., 'A man is walking through a great forest through wild swamps, and the lyre bird is standing in a swamp in the forest', and 'While the swan is ploughing into the water like a churn, the penguins sit happily playing'). However, the number of such purely narrative accounts fell sharply in the experimental group.** This suggests that the programme had encouraged them to think more often in terms of definite conceptual categories that could embrace the photographs they had put together.

Third, the table shows that the experimental group pupils relied more often on categories emphasised in the programme to explain whatever combinations of photographs they had produced.

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* This difference was statistically significant at the 1% level - i.e. it could have arisen by chance only once in a 100 times.

** The difference in recourse to narrative explanations between the experimental and control group pupils was statistically significant at the 1% level.

One interesting example appears in Row B of Table III, which shows that the category of camouflage was cited by 47 of the experimental group pupils compared with only one member of the control group. Thus, although, as Table I had earlier showed, giraffe/soldier pairings did not increase after exposure to the programme, their association via the concept of camouflage did. (In fact the experimental group children were much less inclined to associate these pictures through the notion of 'Life in the jungle'.) Other examples of producer categories that were mentioned more often by the programme's viewers include display for attraction and display for status.*

An increased reliance on a producer's category of display, however, did not invariably entail its application to that particular pair of pictures which had been used in the programme to illustrate it. This point is demonstrated by the chart below, which summarises the main relationships that were found in the experimental group between pupils' photograph groupings and the categories they had generated to explain them:

Category	Photograph Groupings
Authority/Law and order	Queen - Policeman - Judge
Clothes - to show status	Queen - Policeman - Judge - Ascot Dress
- as fashion	Ascot dress - Carnaby Street model - Hippies - Hell's Angel
Attraction	Swan - Lyre bird - Carnaby Street model - Hippies - Hell's Angel
Camouflage	Giraffe - Soldier
Aggression	Swan - Hell's Angel
Animals/Birds	Swan - Lyre bird - Penguins - Giraffe

* The difference between experimental and control group children in reliance on producer categories was tested for significance by combining all asterisked references in Table III. This proved statistically significant at the 1% level.

It can be seen that all the producer's concepts are represented in the chart except conformity (which seems to be a less accessible notion to children than the others dealt with in the broadcast). There is real evidence here of the impact of the programme on the process of concept formation among viewing pupils.

Nevertheless, the chart also illustrates the diverse ways in which the post-viewing thought processes of the pupils had transcended the bounds set by the programme content. For example, not only was the figure of the Queen added to those of the policeman and the judge to exemplify the concept of authority; but the concept itself was also extended to take in the idea of law and order. To the producer's examples of the concept of display for status - the Queen and Ascot dress - the children added those of the policeman and the judge. To the producer's examples of display for attraction - the lyre bird and the Carnaby Street model - the children added swans, hippies and Hell's Angels. In fact the persistent coupling by experimental and control group children alike of hippies with Hell's Angels (not a producer pairing) was richly laden with diverse meanings - ranging from 'clothes for fashion' to 'love and freedom' ('The people in them are free and want to be free') and on to the notion of 'hooligans' and 'long-haired trouble-makers' who indulge in protest and violence and get into trouble with the police. Such alternative categorisations probably reflect the influence of some strongly entrenched stereotypes.

But the most striking general finding to emerge from this comparison of the producer's and the pupils' manner of organising examples of display into categories is that while the experimental group children revealed the influence of the programme on them in

the greater frequency with which they had formed categories corresponding to those of the producer, their selection of examples to illustrate these categories still tended to be substantially determined by their own preconceptions of what things 'went together' and of how they should be interpreted. This interaction between pupil presuppositions and producer objectives is evidently of great importance. It graphically demonstrates how the learning process is much more than the rote acquisition of information packaged by someone else but involves an assessment of the provided materials against a background defined by the child's previous experience and mental outlook. It also underlines the importance of devising tests which can strive to measure the manner of this interaction.

c) Qualitative characteristics of pupils' category types

The last stage of the analysis of pupils' understanding of the programme content involved an attempt to examine the intellectual level of the interpretations that the pupils had provided of their photo pairings. In conducting this analysis, their explanations were classified into so-called 'descriptive' and 'analytic' responses.

The term, analytic, was defined rather stringently as referring to those statements which showed that the pupils had discerned a meaningful underlying idea common to superficially disparate images. The most obvious example of this was the ability to relate the giraffe and soldier as representing the concept of camouflage. But instances of unusual categorisations, not suggested by the programme, were equally admitted, e.g., 'The birds are free and so are the hippies' (for penguins and hippies). Descriptive types of responses,

on the other hand, consisted for the purpose of this analysis mainly of assertions of identity ('They are all birds') and narrative explanations ('You sometimes get judges following when someone is crowned', 'They are in the street', etc.).

In fact the above definition of an analytic response cut across some of the categories that had been used in previous analyses. For example, the concept of law and order qualified as an analytic grouping only when it went beyond mere narrative or situational identity. Many of the pupils' law and order groupings contained an authority figure together with a hippy or a Hell's Angel. Such an instance was scored as descriptive when the connection between the images was merely situational rather than conceptual.

The results of this analysis are presented in Table IV. Although it is clear that most of the responses in all the groups were classified by these criteria as descriptive in character, there was also a significantly larger number of analytic responses among the experimental group subjects (20% of all classified statements compared with only 3% in the control group).* This suggests that the programme had helped to stimulate more analytic thinking among its viewers than would have otherwise been the case.

TABLE IV

Frequency of Analytic and Descriptive Explanations of Pupils' Photo Pairings

Type of Response	Experimental Group	Control Group	Totals
Descriptive	346	473	819
Analytic	86	13	99
	432	486	918

* The difference was statistically significant at the .1% level.

2. Differences between more and less privileged types of schools

The data presented above were further scrutinised to find out whether school background had influenced viewers' responses to the programme. At first the evidence seemed to point to two distinctions between the schools included in the study. One was a tendency for children from the more privileged schools to share the producer's perceptions more often (regardless of their placement in the experimental or control groups). The other was a tendency for the privileged school children to show more signs of having been influenced by the programme (there were greater differences between the experimental and control group pupils). Both these points are illustrated by Tables V (dealing with the reproduction of producers' examples when combining photos) and VI (dealing with reliance on producer categories to explain their combinations).

TABLE V

Number of Producer Pairings Reproduced by Pupils by School Background

	More privileged schools	Less privileged schools
Experimental group	157	71
Control group	117	65

TABLE VI

Frequency of Reference to Producer-based Categories of Display by School Background

Categories of explanation	More privileged schools		Less privileged schools	
	Experimental group	Control group	Experimental group	Control group
Producer-based	94	22	55	7
Not producer-based	144	276	155	204

A more detailed analysis of the data, however, revealed the existence of big differences between the two privileged intake schools themselves. For example, the producer's Swan/Hell's

Angel pairing (to illustrate aggression) was accepted by 40% of the members of the experimental group in one of those schools but by no more than two individuals in the other. In fact most of the differences by school environment that are summarised in the tables stemmed from only one of the more privileged schools. It would clearly be unsafe to ascribe them to the influence of socio-economic background as such.

This failure to produce consistent results within particular types of school is not untypical of research based on samples drawn from individual schools. A similar result emerged from a study described in Chapter 8 below. It is as if the dimensions according to which schools are customarily classified (social grade of pupils, immigrant density, etc.) are secondary to the influence of some other as yet undisclosed dimension. At another point in this report the importance of classroom atmosphere as an influence on pupils' reception of schools' broadcasts is stressed. It may be that there are also factors emanating from the overall ethos of a school which can occasionally override the influence of those other variables that research workers are accustomed to manipulate.

Further research, leading eventually to a more sophisticated typology of schools, is badly needed if advances are to be made in class-room based research into the influences that condition pupils' responses to schools' broadcasts. Until this is achieved, it is likely that uncontrolled variables will continue to produce such equivocal results as those which frustrated the realisation of the second main aim of the present study.

3. Children's interests and link-man preferences

a) Parts of the programme found most interesting

The viewers of the programme were asked to say which parts of it they had found most interesting. A wealth of descriptive material was produced, giving rise to all the attendant problems that a researcher must face when analysing children's open-ended answers. Only one analysis has as yet been carried out on these data. This involved an attempt to find out whether any particular parts of the programme were being singled out more often than the others as of special interest to the pupils. In fact this analysis did not disclose a consistent pattern of response, the liked passages being fairly widely scattered over the entire range of the programme's content. Although the data are available for a more detailed analysis, this cannot affect the finding that in the case of this programme there was little consensus among viewers about the parts they designated as most interesting.

b) Pupils' preferences for a visible link-man in contrast to a voice-over technique

Pupils were asked to indicate their preferences for a link-man rather than the voice-over featured in the programme. They were instructed to indicate their opinion by ticking one of three boxes, labelled 'better', 'not so good' and 'much the same', respectively. The majority of pupils expressed a preference for the voice-over technique used in the production by indicating that a link-man would be 'not so good'. However, it is possible that these responses simply represented an overall 'vote of confidence' in the skills of the production team. Certainly this result must be regarded as limited in its applicability to other educational broadcasts.

Discussion of the results

The central findings of the study emerged from a sorting task, in which both viewers and non-viewers of the programme were asked to group photographs which seemed to them to fit most suitably together and to give reasons for their choices. Exposure to the programme brought about a modest increase in the number of producer pairings that were reproduced (e.g. judge/policeman), but there was also impressive evidence of viewer persistence with certain popular combinations that had not been associated in the programme (e.g. Hell's Angel/hippies). An examination of the reasons given by the pupils to explain their groupings suggested that the programme had been more influential at the conceptual level. There was a decline both in reliance on conventional animal/bird pairs and in the provision of purely narrative explanations of the groupings that had been formed. There was also a noticeable increase in the frequency of reference to categories which had been mentioned in the programme and to some extent a reorganisation of photographs to fit those categories (e.g. giraffe/soldier becoming an instance of camouflage rather than life in the jungle). Nevertheless, both the concepts formed, and the selection of examples to illustrate them, were more wide-ranging than the materials presented in the programme. and in general the viewers tended still to be governed substantially by their own preconceptions of what items went best together. An explanation of these aspects of the pupils' behaviour can be tentatively put forward along the following lines:

It seems likely that pupils have at their disposal a limited number of alternative groupings and ways of categorising photographs according to associations that are already familiar to them. Where the programme suggested an alternative that was already

evident to pupils, it stood a reasonable chance of influencing their responses. Where it suggested an association that was unusual or alien to the pupils, they were likely to continue to opt for a more familiar grouping.

It appears, for example, that animal-human pairings do not offer a familiar type of association for many pupils. Thus, only a small number of children were prepared to group hippies with penguins or a swan with a Hell's Angel after exposure to the programme. The association of hippies and Hell's Angels was already prominent in children's minds and offered a human rather than a bird/human basis for the meaningful coupling of images. Similarly, although the programme helped to attune some viewers to the concept of display for attraction, the possibility of pairing a swan with a lyre bird tended to overrule the producer's bird/human pairing of a lyre bird with a Carnaby Street model.

It is interesting to note, however, that the one animal/human alternative frequently selected by pupils was that of the giraffe and a soldier in jungle uniform. In this case a clear visual link was apparent between the two pictures and served to provide an acceptable combination for the children. On the other hand, the idea that hippies dressed alike illustrated the notion of display for conformity was by no means immediately self-evident; in fact the children's comments showed that they were more inclined to see them as individualists, fashion-setters or rebels. Thus, the category of conformity was firmly established among only a few pupils, and the sequence on hippies was more commonly associated by them with other aspects of display.

In contrast to those passages of the programme which encountered pupil resistance, the links between policeman, judge and Queen represented clearly evident and available associations for children, and the effect of viewing the programme was to strengthen the connections between them. To the extent, then, that the programme provided familiar examples of a form of display, which could be seen by the pupils as clearly illustrating particular purposes of display (e.g. policeman/judge: authority; giraffe/soldier: camouflage), those categories were likely to be the more firmly established. Where less familiar or less obvious examples were provided (e.g. hippies/penguins: conformity), the categories were likely to be little in evidence in pupils' post-viewing organisation of the programme materials.

These results - especially when considered in conjunction with a further finding to the effect that few children had adopted a strongly analytic approach to the interpretation of the programme's materials - suggest that careful preparation and follow-up will be necessary if programmes like the one studied here are to impress their conceptualisation upon pupils and to shake them out of more familiar and stereotyped ways of looking at things. On the other hand, it may be considered that allowing children more freedom to interpret and relate sequences of such a programme in their own individual ways, and for their own purposes, offers the best possible use of the broadcast. This is, finally, both a producer's and a teacher's decision.

Chapter 7

STUDY II:

YORKSHIRE TELEVISION'S MEETING OUR NEEDS

The second substantial investigation of the project emerged from certain preliminary efforts that had been made early in the period of the Fellowship to pilot evaluation procedures in a trial study undertaken with Yorkshire Television. Before any research had been initiated, it had been decided to base the year's work on the upper age range of the primary school intake. This had the advantage of allowing research methods suited to secondary school pupils to be used, while at the same time enabling an examination to be made of the kinds of modifications that would be necessary to ensure that such procedures were adequately understood by younger children. Yorkshire Television then suggested that one of its series for that age range, Meeting Our Needs, might serve as a useful focus of enquiry, since it seemed to members of the company to raise a number of questions about whether the most effective techniques of production were being adopted for primary school viewers.

This series was designed to form a basis for integrated studies in history, science and geography. Its aim was to increase children's awareness of man's inventiveness and progressive mastery of his environment in various fields, such as Shelter, Food, Clothing, Communication, Calculation, etc. At a first meeting with the researcher, various problems that might merit investigation were suggested by the producer of the series, the Head of the Schools' Broadcasting Department, and the company's Education Officer. It was provisionally decided to base a study on one of the broadcasts prepared for transmission in the Summer

term, the whole of which was being devoted to the theme of Transport. The programme selected for study, the opening one on this subject, was concerned with the early history and development of transportation. It illustrated various forms and uses of simple mechanical means of transport, including rollers, wheels, boats and the travois. Filmed sequences were accompanied by a voice-over commentary. As originally conceived, the aim of the research was to examine differences in children's responses to variations in the final sequences of the programme - according to whether it concluded with or without a summary emphasising the main points of the presentation, or, as a third alternative, with a song written around the theme of a particular sequence in the programme.

The Preparation of the Study

Deciding the aims of the study

The focus of research that was eventually decided upon for the main study was the influence of different styles of commentary on children's responses to the programme. A number of considerations were responsible for this choice of research topic, but primarily it stemmed from an inspection of teachers' cards reporting their reactions to other programmes in the series that had been broadcast in the previous term. It was noticed that many of them referred to aspects of production which seemed likely to be inter-related. Some teachers considered that the programme introduced new ideas and teaching points at too fast a rate for the pupils. Others said that the main

themes of the presentation were given insufficient emphasis, or that the relations between these essential points and subsidiary detail in the programmes were not made clear enough. Another view maintained that the commentaries were spoken too fast and that the broadcasts contained too much 'talk'.

It was soon evident that it would be difficult to vary any one of these features without affecting the others. For instance, if greater emphasis was given to the main themes in a presentation, and to the way in which ideas in the programme realted to one another, then it would be necessary to reduce the rate of presentation of new points and to omit some of the less relevant details. One obvious way of emphasising essentials in a broadcast would be to slow down the speed of speech in the commentary so that a more deliberate, emphatic delivery was provided. Such a reduction in pace, and in the amount of detailed information presented, would presumably at least give the impression of their being less 'talk' in the programme. Because of the difficulty of varying these different aspects of presentation independently of each other, and because it was thought that their combined influence was most likely to make an impression on children's comprehension of the broadcast, a decision was made to study the effects of a revised programme incorporating all of these inter-related modifications.

There remained a need to clarify what kind of difference in response might be expected to occur as a result of such a change in manner of presentation. It seemed logical to infer that a style of presentation which set out to assist viewers in separating what was the central theme of the presentation from what

were more particular examples of the theme (or additional detail added for interest's sake) ought to result in pupils' attention being directed to the more general rather than the more peripheral aspects of the programme content. From the producer's point of view, an understanding of the programme could be said to depend on the viewer's ability to demonstrate such a grasp of its structure or its main lines of argument.

It was decided, therefore, to test the hypothesis that pupils' understanding of the programme content would be enhanced by a form of presentation which emphasised the more general ideas that the programme was intended to convey.

Operationalising the aims of the study

The burden of many of the teachers' comments about programmes in the series appeared to be directed towards features of their commentaries. Consequently, an examination of the effects resulting from changes in the present style of commentary seemed to offer the soundest way of testing the validity of their arguments. It was also evident that the commentary played a crucial part in these productions. It was the essential means used for presenting factual information; it was responsible for directing attention to those aspects of captions, films, and studio sequences which were relevant to the main theme of a programme; and it sought to establish the connections between different parts of the material. The decision to concentrate on commentary presentation also derived from practical considerations, however, for it was a relatively cheap and simple matter to re-dub a new commentary over film sequences in a programme, whereas to re-structure an already-made production as a whole presented almost insurmountable difficulties.

The next step required was to prepare a revised commentary for the particular programme chosen for investigation, so that comparisons could be made between pupils' responses to the altered version and the original presentation. It was also necessary to devise a questionnaire, which could help to ascertain whether any significant differences in pupils' grasp of the essentials of the programme content, stemmed from their exposure to the two different versions. In particular, the questionnaire would have to require pupils to discriminate between the more essential and the more peripheral aspects of the presentation.

Finally, it was decided that it would be interesting to try to find out whether pupils tended to discriminate between those parts of the programme which they liked best and those which they considered most important, and that the questionnaire should also be designed to explore this.

Determining the research techniques and materials to be used

Attention was initially concentrated on modifying the commentary of the programme chosen for study. The first change to be made involved the removal of some factual detail, which did not appear to contribute anything essential to the continuity of ideas in the broadcast. This provided time for the insertion of repetitions emphasising the main themes of the presentation, for surrounding pauses and a more deliberate pace of delivery. Repetition was also used as a device to stress the thematic interconnections between one part of the programme and another. This seemed important, as the programme was built around a number of rather striking film sequences (e.g. how an African made a canoe, a primitive man hunting, and the building of the pyramids and

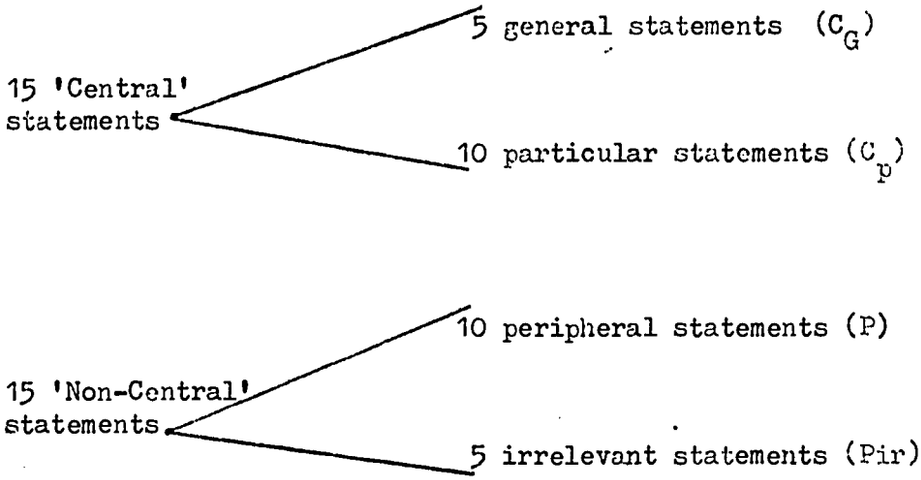
Stonehenge), which could readily command the interest of children, without their gaining an adequate grasp of why these examples were significant in relation to the history of transport.

In addition, a style of writing was adopted which aimed at emphasising important points by incorporating attention-catching questions and by making use of short, direct and pithy statements. A considerable effort was made to render the commentary as conceptually clear and uncluttered as possible, and a few key words or concepts, whose sense might have been vague or inconsequential to children, were also clarified and stressed.

Once a new commentary had been created and dubbed, it was possible to construct a suitable questionnaire. The form decided on for this was a simple but potentially effective one. It was to list thirty statements, each apparently referring to a piece of information which had been given in the programme. Pupils could then be asked to select five statements, which seemed to them to embody what were the most important points that the programme had made.

The questionnaire was compiled by first choosing 20 statements from the principal sequences of the programme, in such a way that, for each such sequence, there was an equal number of items regarded as central to the main theme of the presentation and items considered peripheral to that theme. These latter statements referred for the most part to details of how various modes of transport were constructed or operated. To these were added five statements of the most general kind, which summarised the thematic structure of the presentation; and five statements which were regarded as irrelevant to the main theme, or incorrect.

This created the following breakdown:



Examples of these statements of what the programme 'was about' are:

'How men learned to move very heavy weights on land with primitive kinds of transport.' (C_G)

'How the Egyptians used hundreds of men with rollers to transport stones when they built the pyraminds.' (C_p)

'How the Egyptians used palm oil to make their rollers move more easily.' (P)

'How the Great Pyramid was the highest building in the world until the Eiffel Tower.' (Pir)

At the end of the questionnaire, a question was added asking the pupils what they had liked best in the programme.

A sample of pupils could now be drawn from classes in the appropriate age range and be randomly divided into two comparable groups, one viewing the original presentation while the other saw the modified version of the programme. A statistical analysis could then be made of the extent of the differences occurring

between the two groups in their choice of more central or peripheral statements.

Classroom procedure for the study

A particular aim of the classroom procedure planned for the study was to remove as far as possible from childrens' minds the idea that they were being 'tested' and to put them in a frame of mind where they would react to the experimental situation as spontaneously as possible. It was also necessary to ensure that the pupils properly grasped what was required of them in using the questionnaire. With these objectives in mind the following procedure was worked out:

Before running the programme, the Education Officer (E.O.) was to put the children at ease by chatting with them, and then to tell them that he has a new programme on tape that he wants to show them, and that afterwards he would like to find out what they think about it. After the programme has been run the E.O. was to say:

> I'm sure when you get back to school, your friends who didn't see the programme will probably want to know what it was all about. Now, I want you to imagine that one of your friends has just asked you what the programme was all about. I want you to tell him what you think were the most important things in the programme.
>
> In a moment what I'm going to do is to give you some papers, which have a number of things which were in the programme written down (hands out questionnaire).
>
> On the papers you've got, there are thirty things which were in the programme. First of all I want you to read these through, and then I want you to put a tick next to the five things which you think were most important in the programme. Remember, you can only put five ticks.

When pupils are finished, the E.O. to ask them to indicate that part of the programme which they liked best.

It was decided that in order to establish sufficient control over the viewing environment, pupils should be based into the Yorkshire Television studios. Two offices were made available, with a Sony VTR in each, so that pupils could view the programme simultaneously, but in a slightly staggered fashion, giving the E.O. sufficient time to move between the two rooms, and to give instructions at the beginning and end of the tapes.

One of the important lessons learnt from the previous pilot experiment had concerned the strong and diverse influences that individual teachers could exert upon their pupils' responses. A re-run of that experiment had suggested that significant differences in response, which were apparently due to variations in the form of programme presentation, were in fact almost certainly a product of different moods created in the classes by the individual teachers, and of the comments they had made to the children. Consequently, it was decided that for this experiment the children should be brought all together to the studios, to avoid differences in prior activities before viewing the programme, and in the time of day at which they took part in the research. It was also agreed that, so far as possible, only the E.O. and the researcher should be present with the children at the time of viewing.

It can be seen that much attention had been paid to the need to achieve a high degree of control over the experimental situation. Unfortunately, not all contingencies had been foreseen, and this control was undermined by an equipment breakdown shortly after the Education Officer had started the VTR for the experimental group and had left the room to give instructions to the control group. The failure produced a 'broken' image on the screen, and for a short period the experimental group pupils were in a state of bedlam. When the fault was rectified and viewing was resumed, the contrast between the seriousness of the control group and the uninhibited reactions of the experimental group was quite marked. The findings presented below, therefore, cannot with any degree of certainty be ascribed to a single cause. They may have been due to the manipulation of the commentary, to the influence of the breakdown, or to an interaction of both influences. Nevertheless, some attempt to sort out the factors involved can be made, and it is worth pointing out that the likely consequences for pupil learning of just such an incident as occurred have much interest in their own right. In fact some of the results of the experiment can be interpreted in the light of some earlier work which had been carried out at the University of Leeds Centre for Television Research on pupil reactions to educational broadcasts after attempts had been made to induce differential moods in pupils and in social atmospheres prevalent in the classroom.

THE EXECUTION OF THE STUDY

Summary of the aims and design of the study

Aims of the Study:	To test the hypothesis that pupils' understanding of programme content would be enhanced by a form of presentation (style of commentary) which emphasises the more general and central ideas which the programme is intended to convey.
Subjects:	30 upper primary school children, aged 10-11. Pupils randomly divided into control and experimental groups.
Research Materials:	Two versions of the first programme in the series, Meeting Our Needs: Transport.
Control Condition:	Version I, the original presentation.
Experimental Condition:	Version II, the original presentation with a modified commentary. (The experimental condition was further complicated by VTR failure and a consequent change in pupils' mood.)
Method of data collection:	Pupils to be required to select five statements out of a list of 30, indicating which ones they considered most aptly described what the programme was about. Pupils also to be required to state which part of the programme they liked best.

Method of analysis: Pupils' choice of statements (as most representative of the programme's meaning and as indicative of the part they liked best) to be examined for the frequency with which they derived from the following categories of relationship to the programme's thematic structure: Central - General and Particular; and Non-central - Peripheral and Irrelevant. A comparison to be made between the choices of experimental and control group pupils and the statistical significance of any differences between them to be calculated.

The central findings of the study are summarised in Tables VII and VIII. Table VII shows that the control group pupils (viewers of the original programme) chose significantly more central statements than did the experimental group members (who had been exposed to the modified commentary). In other words, the expectations expressed in the original hypothesis were reversed. Further light is shed on this outcome by Table VIII, which shows that the differences between the groups concerned the frequency with which the most general of the central statements and the most irrelevant statements, respectively, were chosen to express the programme's theme. For the other types of statement (particular central ones and peripheral but relevant ones) the frequencies of selection by the groups were virtually identical. Noticeable is the relatively high proportion of general statements chosen by the control group and the correspondingly low proportion chosen by the experi-

mental group; and the exact reversal of this pattern in their selection of irrelevant statements.

TABLE VII

Number of Central and Non-Central Statements chosen by Children in each Group to Express What the Programme was About

	Statements		Total
	Central	Non-Central	
Control Group	86	64	150
Experimental Group	65	85	150
Total	151	149	300

(Maximum possible number of choices = 150. Number of pupils in each group = 30)

$\chi^2 = 5.88$ - significant at the 5% level

TABLE VIII

Frequency with which Pupils in Control and Experimental Groups Selected Alternative Kinds of Statements

Statements	Control Group (original commentary)	Experimental Group (modified commentary)	Total
Central/general	46	25	71
Central/particular	40	40	80
Peripheral/relevant	44	45	89
Peripheral/irrelevant	20	40	60
Total	150	150	300

(Maximum possible number of choices = 150. Number of pupils in each group = 30)

$\chi^2 = 12.87$ - significant at 1% level

An examination of responses to the question asking which part of the programme pupils liked best indicated a high degree of similarity in the answers of the two groups. But whereas, in the case of the experimental group, there was a fairly close correspondence between liking a sequence of the programme and endorsing a statement derived from it as expressing what the programme was about, the control group pupils, on the other hand, more frequently distinguished between their liking of a sequence and their judgements about its centrality to the theme of the programme. The implications of these findings are considered further below.

Discussion of the results

An important clue to an understanding of these findings stemmed from an analysis of the particular items that at one and the same time were a) most heavily endorsed by the experimental group as pertinent to the programme's theme and b) belonged to the sequences that were particularly enjoyed by both groups. These included such statements as:

> How an African can hollow out a canoe from the trunk of a tree with a stone axe.
>
> How schoolboys showed how the Ancient Britons were able to move huge stones to build Stonehenge.
>
> How stone-age men made weapons out of bones.
>
> How transport advanced when man discovered the wheel.

In fact these items came from those film sequences in the programme which had proved in the earlier trial study to be the most compelling and enjoyable for pupils and which almost certainly included the visual material that was most striking and memorable for them.

One possible explanation of the outcome of this study, then, is that it reflected certain consequences of the revised and more deliberately paced commentary which the experimental group pupils had received. Giving them as it were, an extra 'breathing space', this may have enabled them to devote more of their attention to the visuals, their interest even being heightened by a style of commentary that tried to 'point up' the significance of the pictorial illustrations. Thus, these children may have been encouraged to regard the visuals they liked as also relevant to the programme's central message. In other words, the revised commentary could have acted on them in unanticipated ways.

Such a factor, if it was involved, may have been reinforced, secondly, by the unintended variable at work in the study as it was implemented - that of a mechnical breakdown which visibly altered the climate in which the programme was received by the experimental group children. It may be useful at this point to digress and mention that previous research undertaken at Leeds had already suggested that children's mood could be an influential variable in determining some of their responses, even overriding at times certain features of production expected to be important. For example, in one study of a documentary programme, mood was deliberately manipulated in advance. The members of one group were given to understand that they would see an <u>educational</u> programme and be <u>tested</u> on it afterwards, while those in a second group were invited to watch 'a few films' in a more lighthearted spirit, the documentary being

preceded by two Tom and Jerry cartoons. Both groups completed identical questionnaires after having seen the documentary. The results showed that when the children were asked to describe what sort of programme the documentary was, more 'educational' responses were given by those in the first group (e.g. 'It told you about . . .') while more 'personalised' ones tended to come from the second group (e.g. answers beginning,'It made me think that . . .). Although in this particular case there was no difference between the groups in information gained from the commentary (based on a knowledge test), one can well imagine how in response to other programmes differences of mood could result in the paying of differential attention to different aspects of a production.

From this point of view, it seems a reasonable guess that when the experimental group pupils were freed by the mechanical failure from the constraints and awe of coming to a television studio under research conditions, they responded simply by enjoying those parts of the programme they found most attractive, rejecting any more serious approach to the experience. This explanation implies that, in contrast to the experimental group, the members of the control group had concentrated carefully on the main theme of the programme and had taken seriously the task of stating what the most important ideas in it had been, distinguishing these from the features they had particularly enjoyed. The experimental group, on the other hand, had concentrated on those aspects of the programme of most obvious fascination to a child audience, also reflecting this in their pattern of selections from the items intended to express what the programme was about.

All this is consistent with the possible role of yet a third factor. The qualities of the original commentary may well have been responsible for the more 'correct' performance of the control group. That commentary had been composed in a style derived from adult documentary broadcasts and made few concessions to the school audience. But it is possible that children of this age respond positively to such adult-type commentaries. For example, the complexities in the language of the commentary may have stimulated them to strive for an understanding of what the programme was about, and that effort could in itself have led them towards a better appreciation of its central themes. If so, the more adult commentary might have enhanced rather than distracted from their close interest in and comprehension of the presentation. Some support for this interpretation can be gleaned from a further consideration of Table VII and VIII. The facts a) that 57% of the control group item-selections referred to 'central' statements and b) that only 13% of them mentioned 'irrelevant' ones, suggest that they were certainly not unduly confused by the original commentary. To this extent the results do seem to lend some justification to the producer's original choice of commentary style.

The most likely explanation is that all three factors touched on above - heightened attention to the visuals in the modified version, the experimental group's more frivolous approach to the whole exercise, and the effectiveness of the original commentary - were to some degree involved in the pattern of results that emerged from this experiment. But it is very much to be hoped that a replication of the study can

be undertaken after further discussions with those who were involved in its execution. Such a replication could be of some considerable importance, since the implications of the findings reported here transcend the particular programme that was examined and touch on some issues that are quite fundamental to an effective usage of educational broadcasts in the classroom.

Chapter 8

STUDY III:

GRANADA TELEVISION'S OUR NEIGHBOURS

The two studies outlined in the foregoing pages were concerned chiefly with the cognitive dimensions of children's responses to schools' programmes; the project's third major investigation marked a new departure by venturing into the realm of attitude change as well. Undertaken in collaboration with Granada Television, it was based on the company's Our Neighbours series, which is intended to introduce 10-13 year-old children to questions of race relations by acquainting them with the cultures of foreign peoples who have settled in Britain. The particular programme in the series that was singled out for research was Our Neighbours from Pakistan.

The Preparation of the Study

Deciding the aims of the study

The choice of series and programme for the study emerged from discussions held over a period of several months between the researcher and the Education Officer of the Schools' Broadcasting Department of Granada Television. It offered a topic for investigation that was of direct concern to the Department, so little being known about the effects of broadcasts intended to influence English children's perceptions of members of other racial groups. The goal of the Our Neighbours series has been described by the company as one of encouraging 'appreciation and tolerance of people of different creeds and races, now living in Britain, through an understanding of their background and way of life'. The programme notes

add, 'What is common to us all will be stressed: what is unique will be explained.' In further discussions with members of the Department, however, in which questions for research were considered, it was recognised by all concerned that there was no guarantee that the series would achieve its object of fostering favourable appreciations of other racial groups among white pupils; in fact the possibility was entertained that the series might equally well reinforce existing prejudices or even stimulate new ones (by creating an awareness of racial differences not previously noticed). The study's general aims were thus virtually pre-formulated: to ascertain whether or not exposure to a programme in the Our Neighbours series promotes among its viewers a more informed understanding and sympathetic appreciation of the ethnic group it describes. This would involve, it was supposed, on the one hand, a greater recognition of similarities between themselves and the group depicted, and on the other hand, a greater readiness to regard as acceptable those respects in which the group was perceived nevertheless to be different.

The specific programme, Our Neighbours from Pakistan, was selected for investigation partly because it referred to an immigrant group which was clearly an object of prejudice to some sections of the community. The broadcast sets out to let children see what life is like in Pakistan and then to show them how one Pakistani family has settled down in Britain. One noteworthy feature is the fact that the presenter herself is a Pakistani (as are all the other speakers in the programme). Another is its strong emphasis on Islamic religious and cultural customs and how they mould the everyday behaviour of

Pakistani people. Some aspects of Pakistani life which are dealt with in the programme include: the making of chapatis, the frequency of prayer, eating habits (with some stress on the practise of eating with one's hands which are invariably washed before meals), the closeness of extended family ties, the strict upbringing of children, fashions of dress, leisure-time relaxations, the importance of religion and the difficulties for Pakistanis resident in England of learning a new language and making other adjustments to British ways. It was appreciated that the study could not aim to chart any of the longer-term developments in pupils' attitudes to Pakistanis that might result from exposure to the programme. From the standpoints both of research feasibility and of the company's practical concerns, it seemed important to study the more immediate reactions provoked by the programme, for it was those that teachers, receiving the broadcast, would have to contend with and strive to use creatively in the classroom afterwards. The intention, then, was to discern the immediate post-broadcast state of mind in which the programme left pupils, and to discover how far their understanding of Pakistani ways and their opinions about them differed from their pre-broadcast outlook.

Operationalising the aims of the study

As will become apparent from a consultation of the text below, the decision to base research on Our Neighbours from Pakistan entailed exploration of a quite intricate field of responses. So far as possible, the questionnaire that was eventually drawn up sought to do justice to its complexity.

One area of investigation concerned the pupils' reactions to the presentation as a whole - whether it impressed them favourably and perhaps pre-disposed them to accept its message. To put those reactions in perspective, however, it was thought useful to explore some of their attitudes to television as a medium as well - whether they were inclined to regard it in general as an authoritative and credible source from which to learn.

A second line of enquiry started from the pupils' levels of prior knowledge about Pakistan and Pakistanis, from which could subsequently be gauged the amout of factual information which they had acquired from the programme. This might provide the basis for a more informed understanding of the customs and beliefs that Pakistani people adhered to.

But it was agreed, thirdly, that the most significant reactions to the presentation would consist of children's opinions about and attitudes towards Pakistanis themselves. Such reactions might include their evaluations of Pakistanis in terms of their conformity to the children's standards of what counted as proper behaviour in certain spheres, the extent to which they thought that Pakistanis <u>should</u> conform to English habits and customs, and how they felt about mixing with Pakistanis.

The aims of the study called for a before-and-after design, and it remained to decide how a sample of children should be chosen. Previous research undertaken at the University of Leicester Centre for Mass Communication Research by Paul Hartmann and Charles Husband had suggested that the

density of the immigrant population within their areas of residence was a crucial factor in influencing the racial attitudes of English school-children. In their words:

> . . . among white working-class secondary school-children, at least, prejudice towards coloured people is more common in areas of high immigration than in areas of low immigration, and in schools with appreciable numbers of immigrant children than in schools with few or none. The data show that immigration into an area is more strongly related to prejudice than is personal contact in school.*

Consequently, it was decided to base the study on two samples of children, drawn respectively from schools located in areas of high and low immigrant density, and to compare their reactions to the programme.

Determining the research techniques and materials to be used

It was decided to collect evidence from the sample members by means of a questionnaire composed entirely of forced-choice items. The children would be given a set of printed statements and asked to react to each one by placing a tick against one position on the following five-point scale: strongly agree; agree; don't know; disagree; strongly disagree. This would facilitate a sensitive measurement of changes in knowledge and opinions following exposure to the programme, although some producers feared that the scale might prove too difficult and confusing for the children. They eventually accepted this technique on the understanding that it would be carefully explained and illustrated to the pupils before they completed the questionnaire. In the event there was no evidence that they had experienced any serious difficulty in responding to the scales.

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* Paul Hartmann and Charles Husband. 'The Mass Media and Racial Conflict', Race, Vol. XII, No. 3, 971.

The questionnaire included statements of three different kinds, which were interspersed, however, to counteract possibilities of response set (a tendency to fall into the habit of answering questions according to one pattern only). The first set of 12 statements, which were expected to elicit pupils' views about the nature of television as a credible, authoritative and information-conveying medium, differed in their pre- and post- viewing versions. The former referred to television as a medium in general, while the latter referred specifically to the programme about Pakistanis as such. Most of these statements were so worded that the pre- and post-versions referred to similar attributes. For example, a pre-viewing statement to the effect that, 'You can see what people are really like from TV', was changed for the post-viewing situation to, 'You could see what Pakistanis are really like from the programme'.

The second and third sets of statements were identical in their pre- and post- viewing versions. The second set consisted of 14 statements, each of which referred to some piece of information that had been presented in the programme. Some of these items were correctly stated - e.g. 'Most Pakistanis are Muslims who follow the prophet Mohammed' - while others were put in an incorrect form - e.g. 'Pakistanis are not very religious people'.

The third set of 16 statements elicited a degree of agreement with various evaluations of Pakistanis, often couched in the form of comparisons with Englishmen or English customs.

Some, for example, were straightforwardly comparative - e.g.'Pakistanis are usually as clean as English people'. Others enquired whether Pakistanis should conform to English customs - e.g. 'Pakistanis should dress the same as English people'. Yet others referred to various aspects of relations between the races - for example, whether Pakistanis 'are ordinary people like us', whether English people tend to treat Pakistanis 'unfairly', and whether mixing between Pakistanis and English people was a good idea.

The samples of viewers were drawn from four Manchester schools - two of which were located in areas of high immigrant population and two in areas with few immigrants. In order to hold the influence of social class constant, all the schools came from predominantly working-class areas of the city. The individual schools themselves were selected according to these criteria by an official in the Manchester Education Authority who is in charge of special work with immigrant children. It was then agreed with the Heads of the schools concerned that at a certain time a number of pupils would be asked to complete the pre-viewing version of the questionnaire; and one week later the same children would be shown Our Neighbours from Pakistan and given the post-viewing questionnaire to fill in. Before its use in the four schools, however, the pre- version of the questionnaire was piloted in a Bradford school, where the pupils were invited not only to complete the form but also to discuss the statements included in it with the researcher. Some of the items were modified as a result of this trial.

Determining the classroom procedure

The Granada Education Officer, who was based in Manchester, agreed to oversee the classroom running of the study. She was to be assisted by someone from the school concerned - either a Head or an individual teacher - who was to be instructed not to comment on the questionnaire items or to influence the children in any way.

The procedure for introducing the Education Officer to the children was intended to enable her to appear so far as possible incognito. The aim was to avoid an association of her in the children's minds either with television or with immigration (which might have influenced their responses) and to encourage them instead to regard her as a disinterested interviewer. The text of her introductory remarks was as follows:

> I have been going around different schools in Manchester finding out what children think about some matters which are very important for people living in England today.
>
> I want to find out what each of you personally thinks about these things. What you say is going to be quite private - it's nothing to do with school. I want you to try and be as honest as you can and to tell me what you really think.

The questions I'm going to ask you in this school are mainly about two things - what you think about television, and what you feel about Pakistani people living in England.

Now I want you to open your books to the first page. What is written there is a number of sentences. They are all about things which other people have said. I want to find out if you agree with them or not.

Now look at the first sentence. It says, 'Pakistanis are not as hard-working as English people'. Underneath it says strongly agree, agree, not sure, diagree, strongly disagree. I want you to put a tick under just one of these things. If I strongly agreed with that one, I would tick it, like this . . . (Write on blackboard. Elaborate until it is clear that pupils fully understand).

When she returned to the schools the second time, the Education Officer spoke to the pupils along the following lines:

Last week I came to see you, to ask you some questions about matters which are important for people living in England now. Do you remember that some of the questions were about Pakistani families in England, and some were about television?

Today I'm going to show you a television programme about Pakistanis, and when it's over, I'm going to ask you some questions again to see how you feel about things.

When film is over, and books handed out

Now turn over the page. I'm going to read out the sentences like last time, one by one, and remember, each time you have to put a tick underneath to say what you think about that question.

The Execution of the Study

Summary of the aims and design of the study

Aims of the Study: To investigate (a) pupils' attitudes towards TV as a medium from which to learn, and whether their reactions to the presentation of Our Neighbours from Pakistan were favourable or unfavourable; (b) the extent to which pupils gained factual knowledge from the programme; (c) the extent to which pupils' prior opinions about Pakistanis were subject to change in a favourable or unfavourable direction after viewing the programme; and (d) to compare the responses of pupils from high and low density immigrant areas in these respects.

Subjects: 106 pupils, aged 10-11 years, drawn from four schools in the Manchester area, two from a high-immigrant-density area, and two from a low-density area as follows:

High Density 1 (H_1) = 19

High Density 2 (H_2) = 27

Low Density 1 (L_1) = 32

Low Density 2 (L_2) = 28

Method of data collection: Administration of a questionnaire, requiring the registration of agreement or disagreement with a number of statements on a five-point scale.

Methods of data analysis: Comparison of strength of agreement/disagreement by pupils on items before and after viewing the programme. Comparison of strength of agreement/disagreement on items between pupils from schools located in areas of high and how immigrant density.

Results of the study*

The investigation produced a wealth of evidence about the reactions of children to race relations themes. Only the main findings will be presented here, but the data would lend themselves to a more detailed analysis - particularly of inter-relationships between some of the key variables represented in the study.

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*The results set out below are presented without recourse to chi-squared tests of the statistical significance of differences between pupils' responses to various questions before and after viewing. Much of the discussion turns on changes of response to a large number of quite specific items, for which a certain statistical model of analysis had originally been envisaged. This would have involved an intercorrelation of question answers, and a grouping of the responses by cluster analysis, in order to reveal the main dimensions of opinion along which the pupils were reacting to what they had seen. Although some of the work required for such an analysis was carried out, it could not be completed in time for inclusion in the present report. With the exception, then, of an analysis of variance (see Table XII below), which aimed to trace the interaction between programme influences and different schools in the acquisition of information from viewing Our Neighbours from Pakistan, the discussion is based upon a detailed qualitative analysis.

1. Opinions about television and about the programme, Our Neighbours from Pakistan

The children's general impressions of television as a medium of communication are summarised in Table IX. The positively and negatively worded questionnaire items, have been distinguished in the table so as to facilitate its interpretation, and the individual statements are presented in an order that corresponds to the degree of agreement that was registered with each one. The table refers to all the pupils who took part in the study, for there was no evidence to show that density of immigration in the pupils' area of residence had influenced any of these reactions to television as such.

The table suggests that although the pupils may divide fairly evenly over some attributes of television, by and large the majority of children give it their confidence. They were apparently most impressed with the information-conveying power of television. Thus, 62% agreed that they could learn how other people felt about things from watching TV (the largest percentage to agree with any positively worded statement), while 70% denied that 'TV can't tell you anything you didn't know before' (the largest percentage rejecting any negatively worded statement). Other responses, however, signified a more sceptical spirit, 75% agreeing that 'You can't always believe what they tell you on TV', 53% stating that they would not change their minds because of things seen on TV, and 46% denying that, 'You can see what people are really like from TV'. On the other hand, television producers were credited with having good intentions,

55% agreeing that the medium usually tries to be 'fair to people' and 52% agreeing that you could trust TV 'when it shows you ordinary people telling you about themselves'.

TABLE IX

Opinions about Television as a Medium (pre)

Positively worded statements	Agree	Don't Know	Disagree
	%	%	%
I often learn how other people feel about things from watching TV.	62	23	15 = 100%
I often hear people on TV saying exactly what I think about things.	57	17	26
TV programmes are usually fair to people.	55	24	22
TV tries to make up your mind for you about things.	52	16	32
You can trust TV when it shows you ordinary people telling you about themselves.	52	16	32
TV can show you the right way to treat other people.	49	23	28
You can see what people are really like from TV.	39	15	46
Negatively worded statements			
You can't always believe what they tell you on TV.	75	11	14
I would not change my views because of anything I had seen on TV.	53	29	18
TV programmes don't try to improve things in the world.	40	23	38
The people in TV programmes don't always know what they are talking about.	39	22	39
TV can't tell you anything you didn't know before.	20	10	70

N = 106

If anything, the pupils in the study felt even more favourably disposed towards Our Neighbours from Pakistan as a programme than towards television as a medium. Their reactions to a number of specific statements about the programme are presented in Table X. These suggest that the children were particularly impressed with the broadcast's credibility. Seventy four per cent professed trust in the programme for its use of ordinary people to show what Pakistani life was like. Fifty nine per cent denied that its aim was merely manipulative - 'just trying to make me change my mind about Pakistanis'. Sixty five per cent vouched for the truth of what was 'said in the programme'. The pupils felt almost as positively about certain other features of the broadcast. At one and the same time they thought that it had faithfully depicted English reactions to Pakistanis (84%) and was trying to be fair to the Pakistanis themselves (61%). The children also seemed to find the programme informative, 66% agreeing that it had helped them 'to understand how Pakistanis feel about things'. And 65% agreed that it had made them think that 'Pakistanis should be treated the same as English people'. All this suggests that many children are likely to regard as acceptable the efforts of schools' broadcast producers to use television to promote more enlightened race relations. Of course this is not to say anything at this stage about the actual effects of such use, and in this connection it is interesting to note the hint in Table X of the existence of reservations in the minds of some viewers about the likely impact of the programme they had seen on relations between Pakistanis and English people. Only 36% disagreed with the negatively worded proposition that, 'This sort of programme won't help people of different races to get on better with each other', while as many as 44% said that they did not know.

TABLE X

Opinions about 'Our Neighbours from Pakistan' as a Programme (post)

Positively worded statements	Agree %	Don't Know %	Disagree %	
You could trust what the programme said because you :+ ordinary Pakistanis telling you about themselves.	74	19	8	= 100%
The programme has helped me to understand how Pakistanis feel about things.	66	27	8	
The programme made me think that Pakistanis should be treated the same as English people.	65	26	8	
The programme was trying to be fair to the Pakistanis.	61	29	9	
You could see what Pakistanis are really like from the programme	58	25	18	
The programme was just trying to make me change my mind about Pakistanis.	20	22	59	
Negatively worded statements				
The programme has not changed my views about what Pakistanis are really like.	31	31	38	
This sort of programme won't help people of different races to get on better with each other.	20	44	36	
The people in the programme didn't always know what they were talking about.	17	32	51	
I don't believe everything they said in the programme was true.	10	25	65	
The programme didn't tell me anything I didn't know before.	10	17	73	
The programme didn't show you how English people feel about Pakistanis.	9	7	84	

N = 106

2. Knowledge gain

Our Neighbours from Pakistan was not only well-received by the children; it was also highly effective in conveying information to them about Pakistani customs and ways of life. Nevertheless, there were inter-school differences in the extent of such knowledge-gain, the pupils from one of the high-density schools having been out of step with the children from the other three schools. In presenting the results in Table XI, therefore, this particular distinction between the schools has been preserved.

TABLE XI

Percentages of Correct Responses to Information Items before and after seeing Our Neighbours from Pakistan

	Three Schools Combined (N = 87)		One High Density School (N = 19)	
	Before %	After %	Before %	After %
1. There aren't any modern cities with factories and offices in Pakistan.	26	74	16	58
2. Pakistanis don't bring up their children very strictly.	28	70	16	32
3. Most Pakistanis come from country villages.	31	77	69	69
4. Pakistani families don't allow girls and boys to go out together.	22	91	37	89
5. The people in Pakistan are mostly farmers and fishermen.	30	75	37	58
6. Pakistanis cover their arms and legs because of the climate in England.	40	51	21	47
7. Pakistanis are not very religious people.	47	77	47	58
8. Most Pakistanis are Muslims who follow the prohet Mahommed.	25	76	74	63
9. Pakistanis must eat special meat because of their religion.	30	89	95	95
10. Pakistani boys and girls always agree with what their parents think.	25	21	11	11
11. Pakistani children in England have to learn to speak three languages.	21	74	16	53
12. Pakistanis eat chapatis made from flour and water.	25	92	74	100
13. Pakistanis don't think education is very important.	28	78	16	47
14. The word Muslim means a person who disobeys God.	20	73	53	68

The table demonstrates how numerous and substantial the gains in factual information after seeing the programme were. For example, there were large increases in all the schools in the numbers of children giving correct responses to items about urban life in Pakistan, the country's occupational structure, parental discipline, the language problems experienced by Pakistani children in this country, and Pakistani attitudes to education.

The table also highlights two sorts of differences between the schools. First, the pupils from the one school that is dealt with separately in the table showed an initially higher level of correct information about Pakistanis at the time of the pre-viewing test. They were more knowledgeable, for example, about various features of Pakistani meal-time habits and religious customs. But second, some of the knowledge gains recorded by the pupils in that school were less substantial than those which were registered in all the other schools combined.

Notes about the schools supplied by the Granada Education Officer helped to clarify some of the likely sources of these differences. It transpired that H_1 was the only school in the sample with a large enrolment of immigrants in its classes (as distinct from simply being located in an area of high immigrant settlement). In fact 70 of its 170 pupils were immigrants, of whom as many as 48 had come from Pakistani homes. In the other school in a high immigrant area there were only 17 immigrant children out of a total enrolment of 213 pupils. Moreover, school H_1 was the only one in which deliberate instruction about the Pakistani way of life had been provided in assemblies on the subject. There was also a Pakistani teacher on the staff who was responsible for special English classes. All this suggests that in this investigation, in contrast to the Leicester

study mentioned above, contact with Pakistani culture inside the school had played a more important part in discriminating pupil responses than had a merely residential immigrant presence.

The teaching given on Pakistani culture in school H_1, together with the greater amount of contact between English children and their immigrant peers, is probably sufficient to explain the higher level of initial knowledge found among the pupils in this school. It is also possible that the incidence of higher in-school contact helps to account for this school's lagging knowledge gain. Inspection of the individual statements involved suggests that the ones on which after viewing the H_1 pupils were giving fewer correct answers in comparison with the children in the other three schools were those to which they could have been responding in light of their experience with immigrant peers rather than in the light of information provided in the programme. Examples of such items are:

'Pakistanis don't bring up their children very strictly.'

'Pakistanis are not very religious people.'

'Pakistanis don't think education is very important.'

Finally, the statistical significance of each of the main patterns in the findings that has been singled out for comment above was confirmed by the results of an analysis of variance which are presented in Table XII. Row B shows that the amount of overall knowledge gain would have been achieved by chance on only one occasion out of a hundred. Row C shows that school H_1's initially superior level of information would have occurred by chance on only one occasion out of 20. And row D shows that the pattern of post-viewing change in knowledge level was significantly different among the H_1 pupils from that recorded by the other children (it would have happened by chance on only one occasion out of a hundred).

TABLE XII

Analysis of Variance in Correct Responses to Information Items before and after seeing the Programme

	Degrees of freedom	Sum of Squares	Variance	Variance ratio	Sig. level
A. Between items	13	1802.27	138.64	.323	-
B. Between pre and post	1	15798.20	15798.20	36.83	$P < .01$
C. Between schools	1	2038.40	2038.40	4.752	$P < .05$
D. Interaction B x C	1	10325.28	10325.28	24.07	$P < .01$
Residual	39	16729.21	428.95	-	-
Total	55	46693.36	-	-	-

3. Attitude change

It was in its examination of attitude change that this study yielded the most complex and interesting findings of all. To understand how the pupils' views developed after seeing Our Neighbours from Pakistan, the evidence must be considered in stages, corresponding to three fairly distinct types of opinion and attitude items on the questionnaire. These required, first, an assessment of Pakistanis in terms of certain valued character traits that were not directly dealt with in the programme but which might have been influenced by it; second, an evaluation of Pakistanis in terms of characteristics that were specifically covered in the programme; and third, expressions of opinion about race relations as such - that is, about relations between Pakistanis and English people.

The children's responses, before and after viewing, to the first set of statements, those which compared Pakistanis with English people for their honesty, friendliness, intelligence and diligence, are presented in Table XIII. Since the opinions of the H_1 children

again differed appreciably from those of other pupils, they appear separately in the Table. The results tend to suggest that programmes like Our Neighbours from Pakistan may promote more favourable images of the peoples they describe, at least among those pupils who attend schools which receive only small numbers of immigrant children. The pupils from the combined schools recorded increases in favourable evaluations, ranging in magnitude from 9% to 19%, on three of the four items concerned (for honesty, friendliness and being hard-working). In school H_1, however, the children's initial impressions of Pakistanis were more favourable than those found in the combined schools; but after seeing the programme the proportions of favourable evaluations fell on three of the items by between 10% and 15%. It is not that these children had become more unfavourably disposed towards Pakistanis, however; instead they showed more uncertainty of judgement after seeing the programme, the don't know responses having increased by about 20% on each item. It was as if for them the programme had precipitated certain possibly underlying doubts without inculcating any distinctly negative impressions.

TABLE XIII

Responses of pupils to statements evaluating characteristics of Pakistanis, pre and post viewing

Statement		Three Schools Combined (N = 87) Agree	Don't Know	Disagree	One High Density School (N = 19) Agree	Don't Know	Disagree
		%	%	%	%	%	%
Pakistanis are as honest as English people	pre	45	26	29	68	21	11
	post	55	36	9	58	42	0
Pakistanis are as friendly as English people	pre	55	31	14	79	5	16
	post	74	15	12	68	27	6
*Pakistanis are usually as clever as English people	pre	40	15	45	47	26	26
	post	40	29	31	32	47	21
*Pakistanis are as hardworking as English people	pre	53	18	29	32	42	26
	post	62	22	16	42	26	32

*These statements were worded originally in a negative form in the questionnaire, but in order to facilitate interpretation of the table, they are treated here as positive in recording the direction of pupils' responses.

Table XIV presents the pupils' reactions to a second set of statements, which were intended to gauge the influence of sequences in the programme that had dealt with certain specific aspects of Pakistani behaviour and customs. These items involved comparisons of Pakistanis and English people in terms of cleanliness, manner of dress and eating habits; how far Pakistanis should conform in these respects to English ways; and to what extent Pakistanis seemed overall to be 'like' or different from ordinary English people. The responses to these items provided detailed and revealing insights into the ways in which the children had interpreted the programme content in the light of their own prior expectations and standards.

TABLE XIV

Responses of Pupils about Pakistani Similarity to [illegible] pre and post visits

Statement		Three Schools Combined (N = 67) Agree	Don't Know	Disagree	One High School (N = [illegible]) Agree	Don't Know	[illegible]
		%	%	%	%	%	
Pakistanis are usually as clean as English people	pre	39	16	45	68	16	[illegible]
	post	75	13	13	74	21	[illegible]
Pakistanis eat properly like English people	pre	35	21	45	37	32	[illegible]
	post	30	17	53	21	32	[illegible]
Pakistanis are as well-dressed as English people	pre	52	26	22	58	21	[illegible]
	post	70	15	15	68	21	[illegible]
Pakistanis in England should eat the same way as English people	pre	45	8	47	21	16	[illegible]
	post	23	15	62	26	26	[illegible]
Pakistanis should dress the same as English people	pre	47	13	40	16	47	[illegible]
	post	28	10	62	37	32	[illegible]
It's better if Pakistanis in England keep their own ways	pre	46	17	37	47	26	[illegible]
	post	51	25	24	32	[illegible]	[illegible]
Pakistanis are ordinary people like us	pre	82	7	12	68	16	[illegible]
	post	85	2	15	53	26	[illegible]

*This statement was worded originally in a negative form in the questionnaire, but in order to facilitate interpretation of the table, it is treated here as positive in recording the direction of pupil responses.

The most striking findings seem to have arisen from one sequence in the programme, in which the members of a Pakistani family are shown at a table having a meal. They are seen eating traditional food with their fingers as is their custom. At the beginning of the sequence, the father of the family is shown carefully washing his hands, and the religious significance of this practice is explained. One impressive sign of the impact of this sequence emerged from responses to the statement, 'Pakistanis are usually as clean as English people'. Taking all the children in the study (without regard to the schools they attended), opinion on this point before viewing was evenly divided, 47 having agreed with the statement, 42 having disagreed and 17 been unsure out of a total of 106 respondents. But after seeing the programme 79 pupils (or nearly three quarters of the sample) had accepted the statement. It can be seen from the table, however, that this development was almost entirely concentrated among the pupils attending schools that had few immigrant children. The respondents from school H_1 were already aware of the characteristic Pakistani concern for cleanliness.

However, the same sequence in the programme is responsible for yet another, equally important, finding, which runs in a counter direction. In response to the statement, 'Pakistanis don't eat properly like English people', the pupils were at first divided in outlook but tended to agree with it. After exposure to Our Neighbours from Pakistan, this tendency was accentuated, the proportions agreeing with the statement having risen from 45% to 53% in the combined school group and from 26% to 47% in the single school. In this respect, then, the programme had apparently influenced pupils in the direction of finding Pakistani behaviour less acceptable than before in its divergence from English ways.

Table XIV also shows that, so far as dress was concerned, the programme had exerted the more favourable type of influence instead of the unfavourable one. Small majorities agreeing before viewing with the proposition that, 'Pakistanis are as well dressed as English people', increased to nearer 70% afterwards. This suggests that the specific piece of information given on Pakistanis eating with their fingers had struck a negative vein in pupils' thinking which was not paralleled by the programme's illustration of differences in dress.

It is one thing for a programme to affect viewers' awareness of similarities or differences between peoples in the customs they practise. It is another matter to determine whether it has influenced their impression of the desirability of conformity by the members of an immigrant group, to the host population's ways. Should Pakistanis in England eat and dress, say, like English people do? Responses to the two questionnaire items about these matters highlighted yet again the importance of the immigrant composition of the schools concerned. In the low density schools combined, there were quite big swings (22% and 15%, respectively) towards disagreement with statements insisting on Pakistani conformity to English eating habits and standards of dress. The influence of the programme on these pupils, then, had been towards a greater acceptance of cultural diversity. In school H_1, however, the shifts went the other way - with a decline of 16% in the numbers rejecting a demand for conformity in eating habits and an increase of 21% among those wanting conformity in dress. It was as if the programme had heightened the sensitivity of some of the children in this high density school to cultural clashes that might be latent in their situation. This possibility was underlined by-

response to the statement 'Pakistanis are not very like us'. Most of the pupils in the combined school group accepted that judgement both before and after viewing the programme (83% and 85% agreement, respectively). The children from school H_1, however, were less inclined to agree with this proposition beforehand (63% having done so); and afterwards the proportion in agreement fell further to 59%.

Similar cross-currents affected the pupils' responses to a direct statement about the desirability of racial conformity (worded 'It's better if Pakistanis in England keep to their own ways'). It can be seen from the table that in the combined school group disagreement with this proposition fell from 32% before viewing the programme to 24% afterwards. Once again, then, tolerance of diversity had apparently been strengthened. But in school H_1 exposure to the programme precipitated a dramatic movement into the 'don't know' category of response (from 26% to 55%), involving a corresponding decline in the numbers opting for tolerance from 47% to 32%. These changes seem substantial enough, but even they mask the total amount of shifting that actually took place. This point is illustrated by Table XV, which shows that only 59 of the 105 pupils in the study had held to their pre-viewing opinions about racial conformity after seeing the programme. Of the 47 pupils (or 44%) who had changed their minds, 18 had shifted towards agreement with the statement, seven towards disagreement and 22 towards uncertainty. Thus, while it appears that there was virtually no change in the total number of pupils agreeing with the statement (49 before and 50 afterwards), in fact eighteen pupils had shifted towards agreement and 17 away from agreement. Such a high degree both of change and of variability in pupils'

response patterns was typical of their endorsements of all the more controversial items in the questionnaire that referred to issues of conformity and race relations. This suggests that the programme had aroused a particularly complex set of reactions among many of the children exposed to it.

TABLE XV

Numbers of pupils whose opinions remained stable or changed, and the direction of change, on the statement: 'It's better if Pakistanis in England keep their own ways', pre- and post- viewing

School	Stable			From Don't Know To		To Don't Know From		Radical Changes		N
	Agree	D.K.	Disagree	Agree	Disagree	Agree	Disagree	Agree To Disagree	Disagree To Agree	
L_1	6	4	1	0	1	2	4	1	0	32
L_2	9	1	5	3	1	4	2	1	2	28
H_1	8	1	5	2	0	3	0	2	6	19
H_2	9	4	6	3	0	3	4	1	2	27
Total	32	10	17	8	2	12	10	5	10	106

Finally, four questionnaire items probed the influence of the programme on the pupils' opinions about mutual relations between the races. The trends of response to the individual items, which are shown in Table XVI, are as diverse as the previous findings have by now led us to expect. First, there is in all schools a widespread and mainly unchanged opinion to the effect that, 'Pakistanis are sometimes treated unfairly by English people'. The children's perceptions of a 'common humanity', shared between themselves and Pakistanis, is unmistakeable in responses to this and other items with a similar meaning (e.g., 'Pakistanis are ordinary people like

us'). Second, at the pre-viewing stage there was an equally extensive endorsement of the proposition that, 'Pakistanis should be treated the same as English people'. But after seeing the programme there was a distinct tendency in all the schools to veer towards a 'don't know' position on this item. In the one school with a large immigrant population this was manifested in a sizeable increase in the proportion of 'don't know's - from 10% before viewing to 53% afterwards. This may have reflected an increased awareness on their part of differences between Pakistanis and themselves after exposure to the programme. Third, the more positive side of the programme's influence is illustrated by reactions to the statement that, 'Pakistanis are as easy to like as English people', where agreement in the combined schools went up from 28% to 43%. The H_1 pupils registered no change of opinion on this item, however, showing a stability of judgement which may have been due to their more frequent day-to-day contact with immigrant peers; they already knew whether or not they liked Pakistanis, and no television programme was going to change their minds about that.

TABLE XVI

Responses of Pupils to Statements on Mutual Relations between the Races, pre- and post- viewing

Statement	Pre/ Post Viewing	Schools L_1 L_2 H_2 (N = 87)			School H_1 (N = 19)		
		Agree	Don't Know	Disagree	Agree	Don't Know	Disagree
		%	%	%	%	%	%
*It's good for Pakistanis and English people to mix together.	pre	40	14	46	47	21	32
	post	52	17	31	37	37	16
Pakistanis are sometimes treated unfairly by English people.	pre	85	3	12	79	5	16
	post	79	9	12	79	21	0
Pakistanis should be treated the same as English people.	pre	79	10	10	90	11	0
	post	63	22	10	42	53	5
Pakistanis are as easy to like as English people.	pre	28	27	46	32	32	37
	post	43	31	26	32	32	37

*This statement was worded originally in a negative form in the questionnaire, but in order to facilitate interpretation of the table, it is treated here as positive in recording the direction of pupil responses.

But perhaps a key statement is the one which maintains that Pakistanis and English people should not 'mix together'. On this item the programme provided contrary shifts according to the immigrant densities prevalent in the schools concerned. Pre-viewing responses to the statement were fairly evenly divided between agreement and disagreement, with H_1 pupils tending to favour a somewhat more positive attitude towards inter-racial mixing. After seeing the programme, however, the proportion supporting mixing went up in the combined schools from 40% to 52%, while the equivalent proportion in the single school fell from 57% to 36%. In general the numbers favouring inter-racial

mixing may seem rather low (as do the percentages saying that Pakistanis are as likeable as English people) in relation to the children's apparent acceptance of a shared humanity between themselves and Pakistanis. What appears to be being expressed is group feeling: as if to say, 'We can see that you are ordinary human beings who ought not to be treated differently, but you are still not one of us.'

Discussion of the results

The main findings and implications of the study may be summarised as follows:

1) Pupils in all the schools demonstrated a willingness to accept the credibility and good faith of the programme, which they found informative and affecting. This reflected both positive feelings about the programme itself and their generally rather favourable orientations to the information-providing power of television.

2) Pupils in all schools gave a significantly higher proportion of correct responses to information items testing their knowledge about Pakistan and Pakistanis after viewing the programme. It was also found, however, that pupils in one of the high density schools(H_1) consistently produced a different pattern of responses from those of the children in the other three schools, tending to exhibit a considerably higher level of initial knowledge but showing fewer gains after seeing the programme. This school contained a much higher proportion of immigrant children than did the other schools and was also characterised by the greater amount of play-contact which its English pupils appeared to have with Pakistani children. Pupils in this school had also been given some lessons on the Pakistani way of life. It was considered that their relatively less successful test performance after seeing Our

Neighbours from Pakistan may have reflected a tendency to respond with reference to their experience of Pakistani children in school rather than to information given in the programme.

3) Analysis of responses to another section of the questionnaire, requiring pupils to evaluate some characteristics of Pakistanis confirmed that the respondents were tending to divide according to the density of immigrant children in the school rather than the density of immigrants in the area of the city where the school was located. Whereas school H_1 pupils typically displayed rather favourable pre-viewing attitudes towards Pakistanis, but post-viewing opinions which tended towards the 'don't know' category of response, children in all the other schools expressed initially less positive impressions of Pakistanis which moved in the direction of more favourable opinions after exposure to the programme. This suggested that where local factors did not interfere with their impact, programmes in the Our Neighbours mould had a potential for enhancing inter-racial understanding. The implications of the division in response between schools cannot be ignored, however, and are further discussed below. Of course, it should also be borne in mind, that school H_1 contributed only 19 pupils to the sample. It would obviously be important, therefore, to replicate this study in a larger number of schools with similar characteristics in order to establish or disprove the validity of the distinction between schools which has proved so prominent in the results of this study.

4) The most revealing findings of the study emerged from responses to a set of statements which sought to explore whether Pakistanis were seen as conforming to English children's behavioural expectations and how far English pupils were willing to accept non-conformity in Pakistani conduct. The extent and

complexity of the post-viewing changes that were stimulated suggest that the pupils had responded to the programme in a relatively personal and exploratory manner and not just in terms of stereotyped group feelings and thinking. The most dynamic developments related to a sequence in the programme illustrating Pakistani meal-time customs. After viewing a sequence which stressed the importance of cleanliness to Pakistanis, a large number of pupils were found to have shifted towards agreement with the proposition that Pakistanis are usually as clean as English people. There is some evidence from research that in fact cleanliness (or at least 'not smelling') may be an important factor in the readiness of children to accept one another in school.* However, the same sequence produced a strong negative shift in opinion about whether Pakistanis 'eat properly like English people' - due apparently to the pupils having been shown members of a Pakistani family eating with their fingers. Thus, the showing of two intimately related aspects of Pakistani culture had resulted in changes of opinion in opposite directions, one seemingly more positive and the other more negative.

Care is called for in interpreting the latter development in two main respects. First, although the showing of Pakistani eating habits has emphasised a difference between the races which has impressed itself upon children, it would be superficial to regard these reactions merely as manifestations of increased prejudice. If most English children have been taught to believe that eating with one's fingers rather than a knife and fork

*Keith G. Rowley, 'Social Relations between British and Immigrant Children', Educational Research, Vol. X, No. 2, 1967-8.

constitutes bad manners and is unacceptable and punishable, then it necessarily follows that, according to their upbringing, Pakistanis do not eat properly. From this point of view there is a strong element of logic in the children's response. That this can be compatible with a sense of shared humanity with members of other groups is suggested not only by the answers of the sample members to other items on the questionnaire but also by these apposite remarks of Ursula Sharma:

> We are all the same, but why do we all have such different rules for living? There is only one way of begetting children, but there are many different forms of marriage. There is only one way of getting nourishment, but there are a hundred different ways of sitting down to table. There is only one way of keeping warm but a hundred different fashions of dress . . . Each man loves the laws of the land where he was born.*

Second, it is true that the emphasising of differences in the programme did seem to help to breed a sense of uncertainty among children in the single school with many immigrant pupils about the desirability of inter-racial mixing and of treating Pakistanis like English people. While this was possibly the kind of negative response that Granada had hoped to avoid, it needs also to be noted that in this case the programme did not succeed in providing an explanation of 'what is unique'. In other words, this finding has possible implications both for production and for teaching. For example, it would be valuable to know whether some kind of fuller explanation might have helped to counteract the negative reactions that were elicited. The ambiguities inherent in the children's responses could also provide a basis for encouraging them to

*Ursula Sharma, Rampal and His Family, Collins, London, 1971.

question their own habits and customs and to put them into perspective - e.g. their use of fingers to eat fish and chips. Such a thought might be relevant to notes for teachers about possible lines of classroom follow-up. The pinpointing of the response tendency involved, however, provides perhaps one of the clearest indications of the kind of practical insight that research can offer to educational broadcasters.

5) The differences between schools in post-viewing reactions have already been mentioned at many points above. They emerged yet again on items probing expectations of racial conformity. Although among pupils who met few immigrant peers at school, the programme fostered a greater tolerance of cultural diversity, among those who were seeing Pakistanis in school every day, there was a tendency to find racial differences of customs and habits less acceptable after viewing the programme than before. On many of the items in the questionnaire the pupils from the high-density school had gravitated - sometimes massively - towards a 'don't know' response.

Given the initially favourable and accepting attitudes expressed in this school, the finding is a striking and perplexing one. It would appear that for these pupils the programme had developed an awareness of differences, and perhaps a self-consciousness about them, which had not entered into their previous thinking to the same extent. This does not mean that children in such situations will necessarily adopt more negative attitudes afterwards. But it does suggest that they may be disturbed in their reactions following the programme and more

inclined to question what they had previously taken for granted.

In such circumstances the classroom teacher is likely to be faced with a complex set of reactions, which will make demands on his or her skill, sensitivity and prior preparedness, if creative use is to be made of them. In fact the amount of change and variation evident in the responses from pupils in all four schools indicates that the programme is likely to arouse conflicting feelings and opinions in any one class on this subject. There is every indication that we are dealing here with an area of human response, involving fundamental value systems, where the child's desire to conform to the customs of his own culture may result in a natural resistance to ideas that threaten his sense of security and 'belonging'. In the end the greatest benefit from a study of this kind may lie in the ability of a producer or Education Officer to use its findings to help teachers to be better informed about and prepared for their difficult task.

SECTION III

EVALUATING THE APPROACH

Chapter 9

CONCLUSIONS:

THE FEASIBILITY AND UTILITY OF THE APPROACH

The primary aim of the project was to pilot an approach to the evaluation of schools' broadcast output. At first it was hoped that some standardised forms of questioning, which the companies could administer to samples of their target audiences for schools' programmes, might be devised and recommended. It must be clear to any reader of the foregoing account of the investigations that were conducted in 1970-1, however, how inappropriate such an approach would have been. It is inconceivable that any single set of procedures could have succeeded in answering the diverse yet searching questions about children's responses to their programmes that concerned the makers of Patterns of Expression, Meeting Our Needs and Our Neighbours, respectively. The year's experience has conclusively shown that a serious and responsible evaluation of schools' broadcasting necessitates the harnessing of producer-oriented questions, a detailed analysis of programme content, and techniques of investigation which have been tailored specifically to such questions and content. It is also evident that only a trained research worker can choose and adapt the latter for application to whatever enquiry is envisaged. It seems to follow, therefore, that, in order to incorporate a systematic research contribution into the schools' broadcasting structure of Independent Television, consideration should be given to the appointment of a full-time Research Fellow who would be responsible for a) undertaking collaborative investi-

gations with the companies and b) relating the findings of such studies to a growing body of knowledge about the processes of child learning through television.* From this point of view it is encouraging that the lessons of the past year's work would tend to support such a step on the grounds both of its feasibility and of its utility.

Feasibility

Practical considerations

The attempt to develop a collaborative researcher-broadcaster relationship proved entirely successful and was one of the most encouraging features of the year's work. There were no persistent tensions or unbridgeable differences of perspective, and it was invariably possible to reach agreement upon the particular features of schools' programming that merited investigation. The spirit of open-minded enquiry which prevailed when the studies were designed also helped to ensure that their findings could be freely discussed without a sense that the interests of anyone concerned were being threatened. There does not seem to be any intrinsic reason, then, why such a joint undertaking of research activity could not be put on a more permanent footing and prosper accordingly. It is nevertheless clear that such forms of collaboration depend on the development over a period of time of a personal relationship of confidence between the researcher and broadcasting staff and on the cultivation of a mutual interest in and respect for

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*The author has outlined the details of such a proposal in a letter to the Education Officer of the ITA, dated May 28, 1971.

each other's professional skills.*

The carrying out of research on the scale of the three studies described did not seem to impose an undue burden on the available time and energies of the company personnel concerned. Perhaps some qualification on this point should be made with respect to the Our Neighbours study where the peculiarly delicate nature of the topic under investigation presented some difficulties for the Granada Education Officer when she sought local authority and school approval for undertaking the research. The additional effort required in such cases is probably proportional to the sensitivity and complexity of the problem being tackled.

It is also true that an Education Officer's initial experience of conducting a research investigation with groups of children can give rise to strains, especially when it is important to ensure that videotape equipment is functioning efficiently as well as to maintain the rigorous procedures involved in running a proper experiment. The possibility of technical hitches always renders research of this kind somewhat hazardous. In these circumstances the support (and sometimes the presence) of the researcher can help to ease the way until such difficulties appear less formidable with familiarity.

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*A more wide-ranging discussion of the problems that can attend joint research-production ventures, and of the preconditions of their success, may be found in James D. Halloran and Michael Gurevitch, Broadcaster/Researcher Co-operation in Mass Communication Research, Centre for Mass Communication Research, University of Leicester, Leicester, 1971.

As the above suggests, the successful implementation of a piece of research depends not only on mutual respect but also on a sensible sharing of effort between the researcher and company member, with each person being clear about his own precise role in the overall operation. The importance of achieving such a division of labour stems from the fact that when the burden of work is appropriately distributed, the demands on any single person will be kept within reasonable limits, and any interference with his other professional obligations will be confined to a minimum.

The amount of research activity to be undertaken in a given year is clearly a matter for individual company judgement. The scope of the past year's work probably provides an approximate guide to the extent to which any single company would normally wish to commit itself to research in a 12-month period.

Two other considerations, however, are relevant to the scale of a company's involvement in research. One concerns the need to select worthwhile topics for investigation, which have an evident practical relevance to the production of schools' programmes. The fulfilment of this condition may greatly influence what a company is prepared and able to achieve in a short period of time and whether it all seems worth the effort. For this reason alone it is essential to avoid any semblance of a routine approach.

A further consideration concerns the potential value for a company of being in a position to pursue a particular line of research and to follow up leads and queries emanating from previous studies on a fairly continuous and long-term basis.

As the Meeting Our Needs study showed, a single investigation may sometimes pose more important questions than it initially resolves. The possibility of companies being in a position to tackle problems in a manner that enables them to build progressively and to accumulate findings has distinct advantages, and it is interesting to note in this connection that Yorkshire Television is co-operating this year in a re-run of the Meeting Our Needs experiment. Such cumulative work, however, demands a continuing association with an involved researcher, and this is a further reason for recommending the appointment of a Research Fellow who would be available for such activity on a more permanent basis.

Financial considerations

The overall costs of mounting the three studies which have been outlined were not high. Most of what was spent was provided by the Independent Television Authority, which paid the salaries of a Research Fellow and a part-time Clerk and met the Fellow's incidental expenses (mainly for travel and data-processing) up to a limit of about £150. Other expenditures involved in the actual conduct of the experiments (e.g. preparation of research materials, busing children, etc.) were borne by the individual companies. Although such costs were variable, they were in each case readily met out of existing departmental budgets from the resources available to the particular programme series being examined. Whether such an arrangement would be satisfactory on a continuing basis is a matter for further consideration by the companies. What has been established, however, is the fact that studies of this kind

can be undertaken at relatively little expense without prejudice to the quality of the research involved.

One factor that held costs down was the project's reliance on experimental research designs, which (in contrast to survey fieldwork) need not employ interviewers and can make do with a relatively small number of respondents. Another important factor in limiting expenditure was the placing of final responsibility for the investigations in a university research centre. This enabled computer facilities to be used at low cost and data processing to be undertaken by graduate students at moderate rates.

It can be firmly concluded, therefore, that if there is agreement to the principle of appointing a full-time Fellow to undertake such research in the future, then small-scale but illuminating studies can be mounted and run at a level of expenditure that is unlikely to prove prohibitive to the ITA or the Independent companies.

Utility

In Chapters 3 and 4 of this report some advantages of the kind of approach to programme evaluation which was followed in the past year were outlined. The three pilot studies provide evidence to illustrate and support those assertions. Some of the main features of the approach, which indicates its potential usefulness for schools' broadcasters, can now be reiterated in the light of the findings from these studies.

The findings from the programme studies have been of both specific and more general relevance

All three studies set out to tackle some questions that were of specific interest to the makers of schools' programmes in the various companies. At the same time that those questions were dealt with, however, the findings also helped to shed light on some broader issues concerning the responses of children to educational materials on television.

For example, in the case of Our Neighbours from Pakistan the investigation sought specifically to establish how far the producer's aim of promoting greater racial understanding was likely to be fulfilled. Many of the findings certainly provided a form of feedback about children's reactions, which could be especially informative for teachers using the series; for the producers, the results also pin-pointed those aspects of the programme that could be having an unintended effect. At the same time there were wider implications in the finding of a marked variability of response among children from different types of school background, and the outcome of the study may also have provided a stimulus to think further about the general advisability of producing specialised programmes for children in the race relations field.

Similarly, the Patterns of Expression study not only indicated those parts of the programme under investigation which the children comprehended most readily, but it also spotlighted the more general processes involved in the interaction between the way in which a broadcaster organises certain ideas in a presentation and the children's own established ways of thinking about the same concepts.

And the outcome of the Meeting Our Needs study, ... shedding some light on the programme's specific content style, also gave rise to the formulation of some hypot... about the influence on children's responses to a school... broadcast of aspects of their classroom mood and viewing environment.

The findings of programme studies can serve as aids to diagnosis and the tasks of production and teaching decisions

Since the results of the three studies provided a quite detailed characterisation of children's responses to the programmes under investigation, they were thus potentially capable of guiding judgements about their use in the classroom and decisions about future productions. For example, the findings of the Our Neighbours study could help teachers to plan follow-up discussions by sensitising them to the frames of mind which they might encounter in classes after exposure to such a programme. The results are also being consulted at present by the producers of the series, who are currently engaged in revising Our Neighbours from Pakistan.

The Patterns of Expression study provided a close reading of the extent to which children tended to give an order to the programme materials conforming to that of its producer and how far their prior ways of categorising things led them to restructure the materials according to their own predispositions. The Education Officer responsible for the series has commented that the responses revealed by the study will be of material assistance in the preparation of future notes for teachers about follow-up activities as well as in the planning of subsequent productions.

The findings of the Meeting Our Needs study were more equivocal, requiring further research to clarify their implications. They did, however, enable the producer of the series to diagnose what sequences the children found most interesting in the presentation, and they demonstrated the ability of children to grasp the essential information in a programme when following a style of commentary that made few concessions to its child audience. Debate about the advisability of this approach to scripting for schools had initially stimulated the setting-up of this study, and the outcome, although tentative, tends in some measure to provide support for the producer's original judgement.

The findings of the programme studies have been consistently revealing about the nature of children's responses

It was said in Section ' of this report that to evaluate a programme was to determine its value for the viewing children themselves. Although many questions necessarily remain unanswered, each of the pilot studies has revealed important information (unlikely to have been acquired by any other method) about the responses of children to the various presentations. They have indicated, for example, how children may react differently to different parts of a programme - as in their diverse judgements about the cleanliness and eating habits of Pakistanis after seeing the Our Neighbours programme, and in the contrast between their inability to link hippies with penguins, as instances of conformity, in comparison with their capacity to see judges and policemen as examples of authority after viewing the Patterns of Expression programme.

They have also indicated how responses may differ according to the type of school using a broadcast or the type of classroom environment in which it is received. These outcomes forcefully underline the need to take account of the child's own role in the educational process. They must also provide significant insights for producers as well as opportunities for them to see in a fresh light the characteristics of their personal styles of production and to test their beliefs about what are the key variables in schools' television programming.

Of course the ultimate judgement about the value of this kind of research must turn on the reactions of schools' broadcasters themselves, the individual producing companies and the Independent Television Authority. It would be unfortunate if this enquiry were taken as in any sense definitive. It has been of its nature exploratory and will lead, it is hoped, to further more long-term exploration.

Nevertheless, beyond the specific contributions of individual research findings, a promise of wider benefit does seem to inhere in the overall approach that has been developed. Fruitful researcher-producer contacts have been established; viable methods of co-operation have been evolved and tried out; and instruments and methodologies of investigation have been devised that could eventually form part of an expanding battery of evaluative research techniques. Moreover, should the Independent Television system adopt the past year's enterprise as something of a model for future work in this field, it could expect gradually to reap the rewards of a condition of increasing returns. Mutual understanding of

the characteristic problems and roles associated with production and research would grow; methods of evaluation would become more sophisticated and more capable of providing answers to the questions that schools' broadcasters pose about their audiences; and the gradual cumulation of findings should lead towards a formulation of some generalisations about the effectiveness of particular production techniques, the responses to educational television of different types of pupils, and the interaction between their prior outlook and the communications experience. It is hoped that further consideration will now be given to the steps that might be taken to make such further advances possible.

NOTE

This report has been produced at the conclusion of the author's tenure of an ITA Schoolteacher Fellowship.

It should be understood that as it is the unamended product of the author's period of study the Authority is not in a position to vouch for its factual accuracy, nor does any report produced under this scheme necessarily reflect the opinions either of the Authority or of the companies to which it refers.